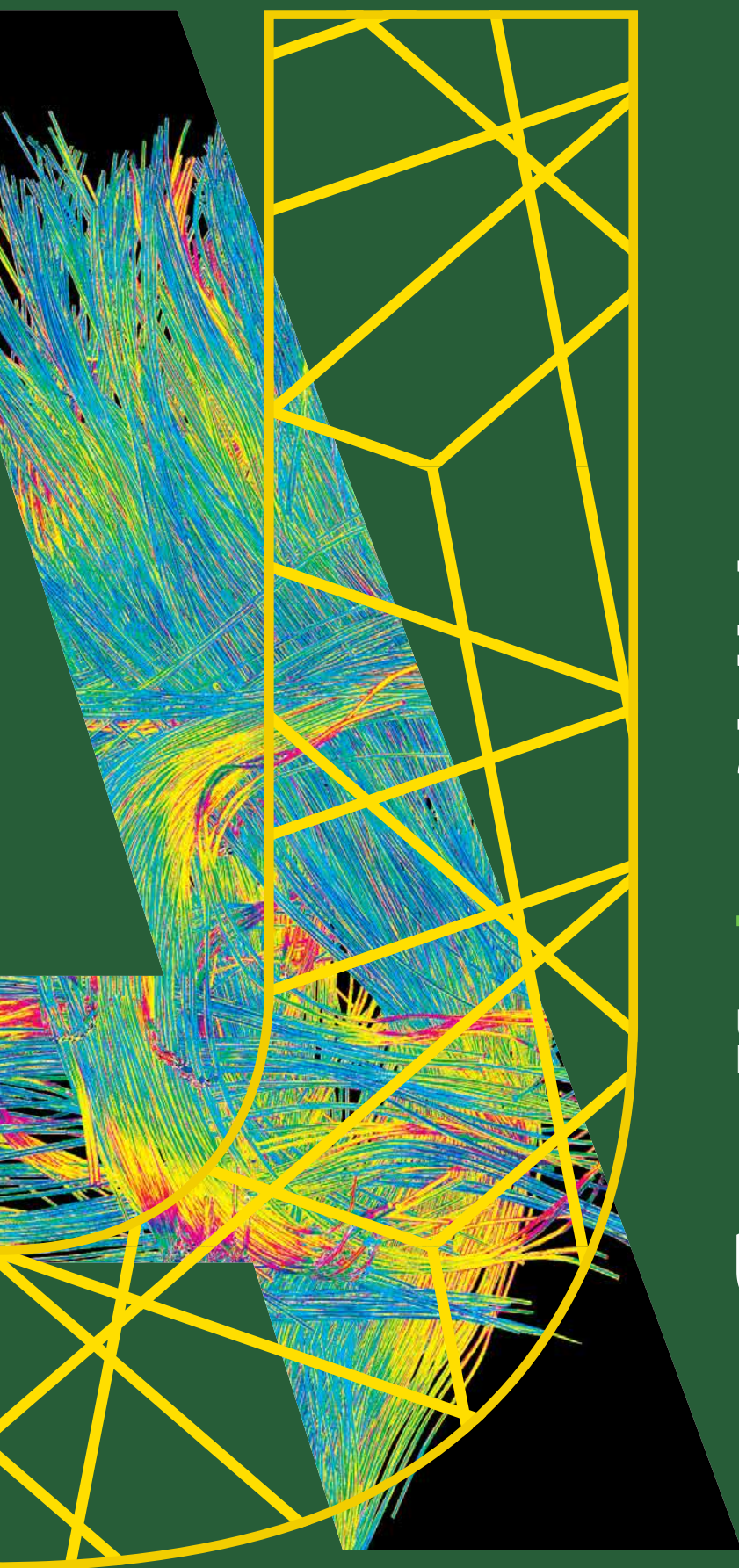




Faculty of  
Medicine & Dentistry

# **IMPACT REPORT 2024 - 2025**

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United for a  
healthier tomorrow.



**UNIVERSITY  
OF ALBERTA**

# Territorial Acknowledgement

The University of Alberta, its buildings, labs and research stations are primarily located on the territory of the N hiyaw (Cree), Niitsitapi (Blackfoot), M tis, Nakoda (Stoney), Dene, Haudenosaunee (Iroquois) and Anishinaabe (Ojibway/Saulteaux), lands that are now known as part of Treaties 6, 7 and 8 and homeland of the M tis. The University of Alberta respects the sovereignty, lands, histories, languages, knowledge systems and cultures of all First Nations, M tis and Inuit nations.

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Reflecting on an Incredible Year

As I look back on the activities within the Faculty of Medicine & Dentistry over the past year, I'm inspired by the commitment of each and every one of you. Thanks to all of you, the year (July 2024 to June 2025) held many high points, all contributing to our collective vision of health and wellness of all through excellence in education, discovery and clinical care.

Within this report, you'll learn about some of our brightest stars – from recent graduates planning exciting futures in health care to early-career researchers advancing life-changing studies in the lab, from instructors and professors laying the foundation for future health professionals to the staff that make it all possible.

You'll also find stories behind some of our community of generous donors and supporters – what inspires them to give back, the deep impact they make on the Faculty, and the broad reach their support has.

As you read this, the first cohort of medical students has begun classes at the Northern Alberta Medical Program in Grande Prairie. So many of you played a role in this launch and continue to contribute to ensuring its success. I'm grateful to all of you and I applaud your dedication to our mandate to ensure we meet the needs of the communities we serve, including those in rural and remote parts of our province.

With more than 3,000 faculty and at least as many learners, it can be difficult to stay in touch. I hope this report brings us together to understand, honour and celebrate the breadth of our work.

Thank you all.

*B. Hemmelfar*



MESSAGE FROM THE DEAN

OUR VISION:

Health and wellness of all through excellence in education, discovery and clinical care.

OUR MISSION:

To serve the public with social accountability through partnerships, leadership and innovation in education, research and health care.



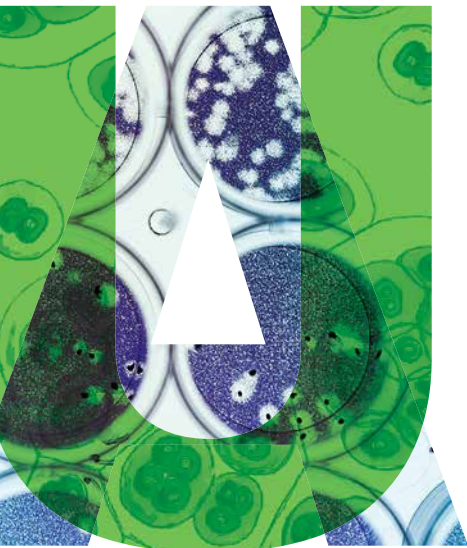
THE YEAR IN NUMBERS

More Students, More Research, More Impact

The past year was one of monumental achievement, growth and collaboration towards our vision of health and wellness for all.



# Improving Health Outcomes Through Research



FoMD research drives real-world impact, improving health outcomes and advancing care across communities. From medical breakthroughs to health equity initiatives, our work addresses today's most urgent challenges. Students are key partners in this mission, gaining hands-on experience to build critical skills and fuel innovation. By integrating research with education and service, we're not only shaping future health leaders, but also informing policy, guiding practice and strengthening systems of care — today and for generations to come.

- FoMD Research Revenue: \$234,521,313
  - +19.2% over previous year
- 4,100+ research articles published\*
- 2 new spinoff companies
- 43 new inventions
- 50 new patents
  - 24 granted, 26 filed
- 32 Canada Research Chairs
- 2 Canada Excellence Research Chairs

July 1, 2024 - June 30, 2025

*\*Estimated total number of articles published in 2024 (Source: Web of Science).*

## Sustainable Funding to Drive Critical Discoveries

The River Philip Foundation awarded the FoMD \$1.25M to facilitate two key research competitions. This included the Transformational Medical Research Grant totalling up to \$1M and the Sustaining Excellence Grants (\$250K) that provided bridge funding to support five CIHR research proposals that were unsuccessful, but highly ranked. The first two bridge funding grants were awarded to Oleksa Rewa, Critical Care Medicine; and Douglas Zochodne, Medicine.



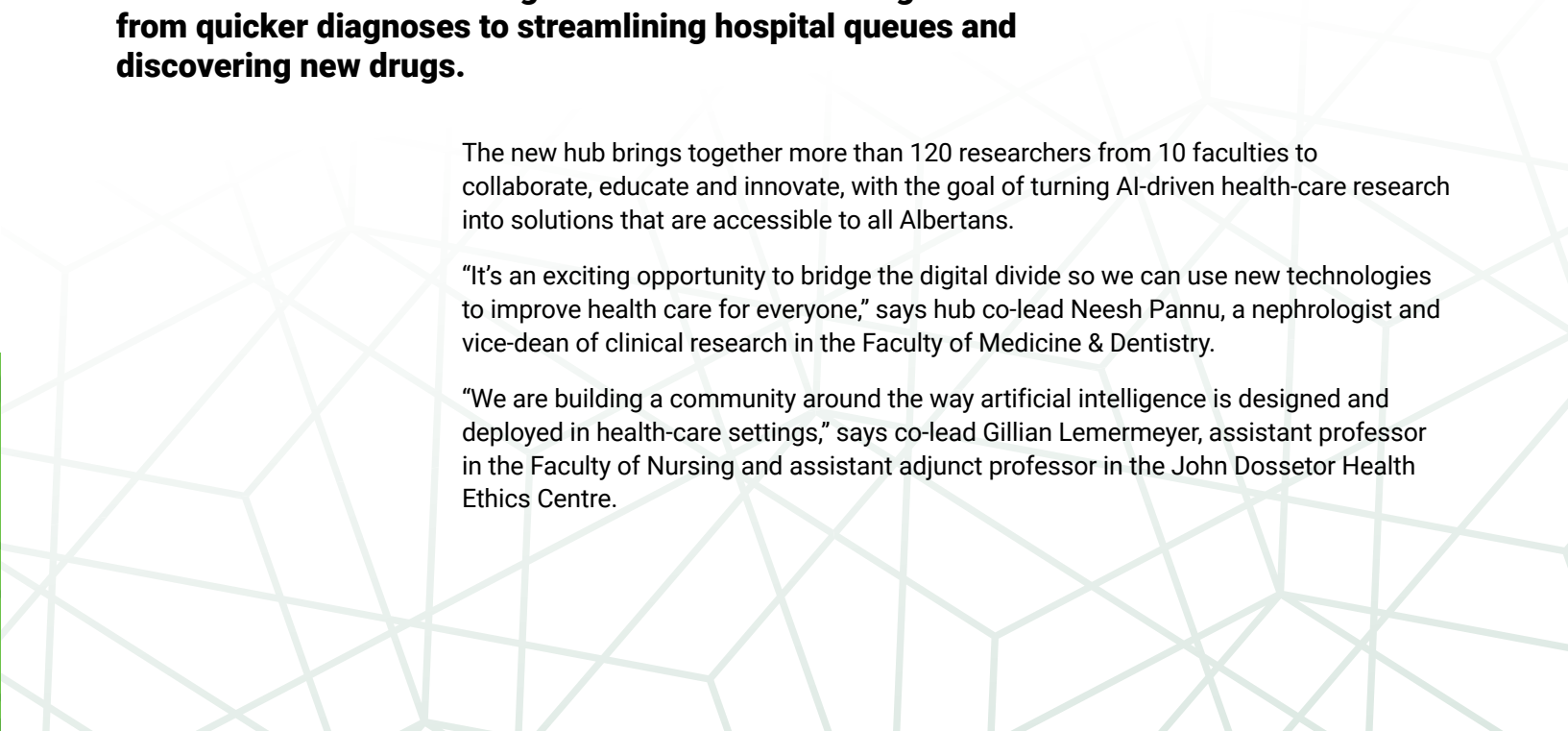
**In May 2025, the College of Health Sciences launched the AI + Health Hub to harness the power of data and computing science to solve a wide range of health-care challenges from quicker diagnoses to streamlining hospital queues and discovering new drugs.**

AI + Health Hub Co-Leads Neesh Pannu and Gillian Lermeyer at the 2025 launch event.

The new hub brings together more than 120 researchers from 10 faculties to collaborate, educate and innovate, with the goal of turning AI-driven health-care research into solutions that are accessible to all Albertans.

"It's an exciting opportunity to bridge the digital divide so we can use new technologies to improve health care for everyone," says hub co-lead Neesh Pannu, a nephrologist and vice-dean of clinical research in the Faculty of Medicine & Dentistry.

"We are building a community around the way artificial intelligence is designed and deployed in health-care settings," says co-lead Gillian Lermeyer, assistant professor in the Faculty of Nursing and assistant adjunct professor in the John Dossetor Health Ethics Centre.



“We want to build on partnerships that already exist between computer scientists and engineers and physicians, and expand that to include all health-care disciplines, artists and sociologists and students and industry,” Lemermeyer says.

The U of A is already a global leader in artificial intelligence, earning \$100 million for AI research since 2017, with 24 Canada CIFAR AI Chairs based at the university and a strong relationship with the Alberta Machine Intelligence Institute (Amii), the only institute of its kind in Western Canada.

Alberta is also home to the largest population-based health data set in North America, which allows research to be based on information about the health of people of all ages, ethnicities and demographic backgrounds, says Pannu, noting that Denmark and Taiwan are the only other places in the world with such a rich resource.

**“We have access to the smartest AI scientists in the world and an integrated health system with a single electronic health record for the province, so when we analyze data and discover improvements, we can design tools that benefit everyone and deploy them at scale.”**

— Neesh Pannu

AI and health innovations already underway at the university include analyzing ultrasound images taken in remote locations to diagnose hip dysplasia in newborns, using an AI scribe tool to take notes in doctors’ offices so they can spend more of their time with patients, and sifting through large data sets of genetic information to predict stroke risk in individual patients.

Working groups in the hub will tackle rural access, data privacy, clinical trials, diagnostic imaging, telehealth, end-user experience and other key facets of AI in health.

Besides Amii, the new hub is partnering and collaborating with groups such as Alberta Innovates, the Artificial Intelligence in Medical Systems Society, Amazon Web Services and Apple Health.

If deployed responsibly, say Pannu and Lemermeyer, AI has the potential to transform health care for the better in many ways, with U of A interdisciplinary expertise leading the way.

## FoMD Canada Research Chairs

**CRC is a program of the Federal Government of Canada with the goal to recruit and retain the world’s best researchers. The Faculty of Medicine & Dentistry is honoured to have 13 Tier 1 and 19 Tier 2 CRCs leading promising research at the University of Alberta.**



**Padma Kaul**  
Tier 1 Canada Research Chair in  
Maternal - Child Health and Well-being

With the launch in November 2024 of the online Healthy Pregnancy Hub, pregnant women in Canada have a new place to look for evidence-based information on the safety of prescription medications.

The site is based on research from the Canadian Mother-Child Cohort, led by principal investigator Padma Kaul. The research includes data from 500,000 Alberta women who gave birth to 900,000 babies between 2005 and 2023.

Nearly 70 per cent of pregnant women take medications, but there is little clinical trial evidence available about their impact on this population because pregnant women are usually excluded as clinical trial subjects, according to Kaul.

“If women have questions about medications, rather than just stop taking them or being hesitant, we want to provide them with a resource.”

# BREAKTHROUGH DISCOVERIES



**ADAM KINNAIRD**

## Clinical trial could lead to new 'gold standard' test for prostate cancer detection

A University of Alberta study shows that PET/CT imaging using a new tracing agent is more accurate at determining the extent of prostate cancer than the current standard MRI for intermediate and high-risk cases.

In research published in JAMA Oncology, the researchers, led by Adam Kinnaird, assistant professor of surgery and adjunct assistant professor of oncology, as well as the Frank and Carla Sojony Chair in Prostate Cancer Research and a member of the Cancer Research Institute of Northern Alberta, report that the new test correctly predicted the location and margin of tumours in 45 per cent of cases — nearly twice as often as the rate of 28 per cent for MRI.



**ING SWIE GOPING**

## Protein 'referee' could hold key to stopping some breast cancers from spreading

Along with her research team, principal investigator Ing Swie Goping, professor of biochemistry and Lilian McCullough Chair in Breast Cancer Research, has identified a key protein involved in the normal growth of mammary glands during puberty that misfires in some breast cancers. The team is now searching for drugs to reverse the problem.

In newly published research, the team reports on the mechanism to switch a protein called BAD from its harmful form to its helpful form, suggesting existing drugs previously used to treat melanoma and lung cancer may be useful.

Goping's team found that administering a drug to turn the BAD protein into its non-phosphorylated form can give the referee back its whistle and stop unwanted cell growth and metastasis.



**JAKE HAYWARD**

## AI scribe could help emergency docs save time and improve patient care

In the fall of 2024, a team of researchers, led by Jake Hayward, assistant clinical professor, emergency physician and deputy clinical head of quality improvement with Alberta Health Services, began testing an artificial intelligence scribe tool first created by Michael Weldon, an emergency doctor and engineer based in Red Deer, to take notes and summarize interactions between physicians and their patients, helping to ease the burden on busy doctors.

The tool was tested in more than 6,700 clinical sessions, demonstrating its ability to handle real-world clinical volumes reliably and at scale, and has since been shared with more than 850 emergency physicians in Alberta.

To pilot test the tool, Hayward and his team have been awarded \$1 million as part of the Health Care Unburdened Grant Program, presented by the Canadian Medical Association, MD Financial Management Inc. and Scotiabank.



**SHIAU-YIN WU**

Cell Imaging Core Technologist, demonstrates the FIB-SEM available for research in the FoMD Core Research Facilities.

## Providing cutting-edge research services

FoMD's Core Research Facilities provide desirable research equipment and support services to researchers at the University of Alberta and across Canada. This includes the Helios 5CX Focused Ion Beam Scanning Electron Microscope (FIB SEM), one of only two in Canada, as well as:

- cell imaging core, which provides services and training for light and electron microscopy
- flow cytometry facility used to analyze cells suspended in solution
- advanced cell exploration core specializing in next-generation sequencing, single cell and spatial transcriptomics, and automation of genetic or drug screening
- lipidomics core for isolating and quantifying lipids and lipid-related molecules
- transgenic core that helps researchers with their transgenic mouse production and archiving needs

# MAKING THEIR MARK - Meet FoMD's Early Career Researchers



**CARRIE YE**

Assistant Professor,  
Department of Medicine

A recipient of the Early Career Investigator in Cancer prize from the Canadian Institutes of Health Research, Carrie Ye received funding for two new research projects in the same competition. The first looks for ways to stop anti-cancer immunotherapy drugs from causing arthritis as an unintended side-effect. The second aims to create an accurate online resource to answer rheumatology patients' questions, called ChatRheum.

"I kind of go organically where my interests lie and then I often will pick up skills to fit whatever question I want to answer," says Ye, who works with rheumatologists, oncologists, immunologists, pharmacists, biochemists, engineers and computer scientists — all collaborating on research questions aimed at making life better for her patients.



**MARIA IOANNOU**

Assistant Professor,  
Canada Research Chair in Brain Lipid  
Cell Biology, Department of Physiology

Neuroscientist Maria Ioannou received the 2024-25 Martha Cook Piper Research Prize, in recognition of her past projects and outstanding promise as a researcher. She and her team are working on understanding how changes to lipids in the brain contribute to Parkinson's disease, using real-time imaging of cell processes as they happen. "Until recently we lacked the ability to study lipids in the same way we have for proteins," says Ioannou.

"What we learn from this project can be applied to other neurodegenerative diseases as well, because lipid disturbances aren't specific to Parkinson's disease," she says.

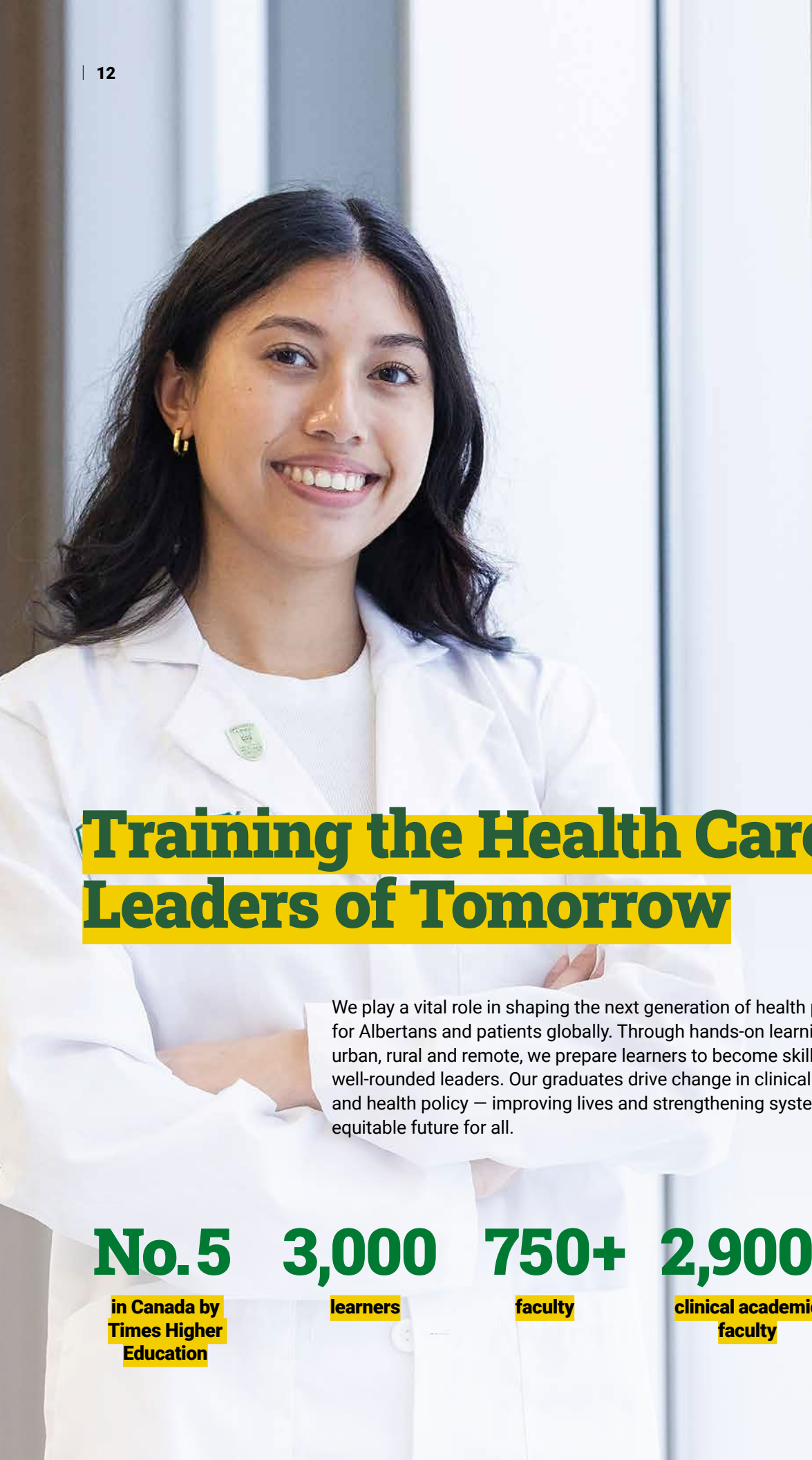


**FABIANA T. ALMEIDA**

Assistant Professor,  
Mike Petryk School of Dentistry

Fabiana T. Almeida was one of six U of A researchers to receive support from the Alberta Innovates LevMax-Health competition in 2025, which awarded a total of \$9.9 million to support digital and data-enabled health innovations in the province. Almeida is working with a team of radiologists, oral surgeons, pediatric rheumatologists and biomedical engineers at the U of A and the University of Calgary to improve screening for pediatric arthritis and make that diagnosis quicker and safer by combining hand-held ultrasound and artificial intelligence.

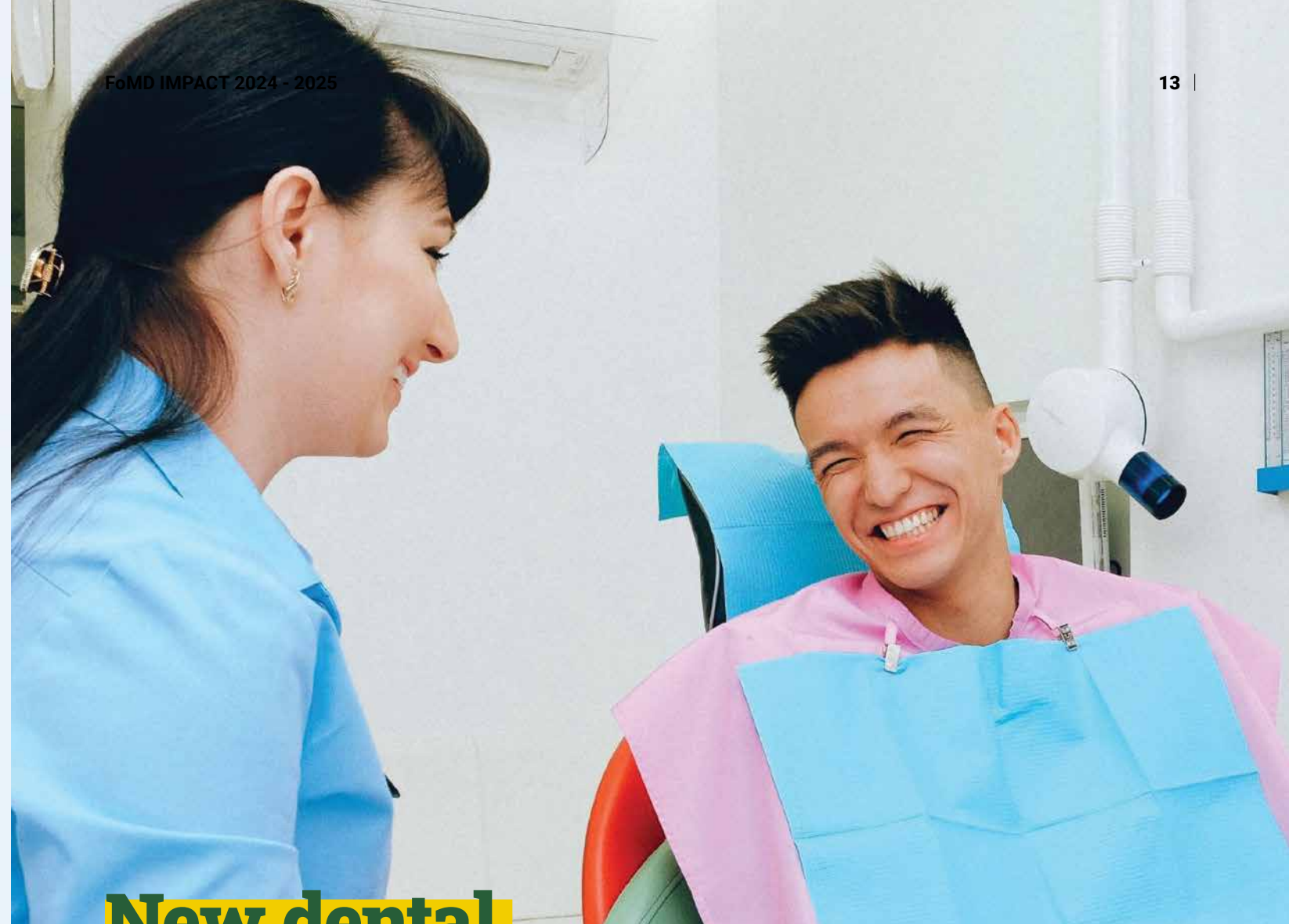
"With this multidisciplinary work, our primary goal is to improve the early screening for this disease and have a positive impact on the overall quality of life of these kids," she says.



## Training the Health Care Leaders of Tomorrow

We play a vital role in shaping the next generation of health professionals who will care for Albertans and patients globally. Through hands-on learning in diverse settings both urban, rural and remote, we prepare learners to become skilled, compassionate and well-rounded leaders. Our graduates drive change in clinical care, research, education and health policy — improving lives and strengthening systems building a healthier, more equitable future for all.

**No.5** in Canada by Times Higher Education  
**3,000** learners  
**750+** faculty  
**2,900+** clinical academic faculty  
**160+** teaching sites across Alberta



## New dental assisting program

A new dental assisting certificate offered at the University of Alberta will help address a shortage of trained professionals in the field and improve care for patients.

The Faculty of Medicine & Dentistry welcomed its inaugural class of dental assisting students in April 2024 in this 10-month, direct-entry program. Students take classes and gain hands-on experience in labs and in clinical settings, such as working alongside dentistry and dental hygiene students at the Mike Petryk School of Dentistry's Oral Health Clinic, which offers dental services to the public.

Dental assistants — who take on a variety of tasks in a dental practice, including preparing equipment, assisting in dental procedures, taking X-rays and providing patient care and education — are in high demand across Canada, according to the Canadian Dental Association, with more than one-third of dental practices reporting unfilled positions.

# Honouring our Past, Shaping Tomorrow



At the Department of Medicine 100 anniversary gala, Dr. Narmin Kassam, Chair, accompanied Her Honour, the Honourable Salma Kakhani, Lieutenant Governor of Alberta, and His Honour, Dr. Zaheer Lakhani, Clinical Professor in the Division of Cardiology.

## Department of Medicine celebrates 100 years

The Department of Medicine was officially established in 1924. The 1930s and '40s brought new challenges with the Great Depression, Second World War and the rise of infectious diseases such as tuberculosis. In the 1950s and '60s, new divisions in cardiology, endocrinology and pulmonary medicine were created. In the 1970s, gastroenterology, rheumatology and nephrology were launched. Today, the department has more than 700 faculty members including clinical faculty and offers training in 16 specialty programs, with a strong focus on innovation in research, education and training.

"As we celebrate 100 years of excellence, I am more excited than ever about the possibilities that lie ahead," says Narmin Kassam, chair.

# SPOTLIGHT ON OUR PEOPLE

Behind every breakthrough and achievement are the dedicated learners, staff and faculty who bring our mission to life. We celebrate their passion, perseverance and commitment to improving health for all.

## Students Leading with Purpose



MSc grad  
Paige Hardy

Before completing a master's in neuroscience, Paige Hardy earned a BSc in honours neuroscience at the University of Alberta. "As an undergrad, I wanted to study neuroscience because I liked science and I thought the brain was cool," she says. "My interest in this area of study has grown a little more nuanced over the years."

As a graduate student, she focused on accelerating peripheral nerve regeneration following injury. This area of study was a fascinating intersection of molecular manipulation and surgical intervention, yielding tangible changes in the growth of nerves. Furthermore, much of the research done in this lab has made its way into clinical trials. "This area of study was the perfect combination of pure and gritty basic science, and key clinical application, in which I could investigate important molecular players on a small scale, and then directly envision the impacts on the larger, clinical scale."



MD student  
Princess Eze

Princess Eze is an MD student with a passion for creating spaces where Black students feel seen and supported. A former president of the University of Alberta's Black Students' Association, and now beginning her second year in the MD program, she is committed to amplifying Black voices and creating a more inclusive and equitable environment for those coming after her.

"Many Black students navigate systemic barriers, financial burdens and microaggressions while also carrying the responsibility of being trailblazers," says Eze. "I want the health-care community to recognize the importance of mentorship, financial support and institutional changes that create a more inclusive and equitable environment. And I want to encourage young Black students who are considering a career in medicine to pursue their passions boldly."

## Students Leading with Purpose



Dentistry grad  
**Justin Kim**

Justin Kim’s path to dentistry was shaped by compassion and curiosity. To him, dentistry was the perfect intersection of science, fine motor skills and service, with each day presenting the chance to make a meaningful impact on someone’s life. During his degree, he volunteered in the remote northern community of Faust, providing dental care to people with limited access. He also participated in research focused on incidental findings in CBCT imaging used for implant diagnostics.

To prospective new students, he says, “It’s a demanding program, but it gives back as much as you put into it. Come in with a growth mindset and be ready to learn not just about clinical skills but also about communication and empathy.”



Medical lab science grad  
**Bohan Hu**

Driven by a lifelong interest in health care and a passion for hands-on science, Bohan Hu found the perfect fit in medical laboratory science. Now, as she steps into her new role as a medical laboratory technologist, Hu is excited to apply her skills in real-world clinical settings and continue supporting patient care.

Throughout her studies, Bohan worked as an aquatic instructor, volunteered as a piano teacher and served on the Medical Laboratory Science Students’ Association’s executive team. “These experiences helped me discover my love of teaching and taught me important leadership skills. I would love to contribute to the education and development of new technologists in the future.”

## Faculty Leading with Purpose



**Diane Severin,**  
Clinical Professor, Oncology

Diane was honoured with the **2025 Dr. Richard Fedorak Memorial Award in Professionalism**. A proud alumna of the Faculty, Diane began her career as a family physician before returning to complete a residency in radiation oncology. She is a trusted advisor and supporter of learners and patients alike, leading with integrity and professionalism in every area of her busy career.



**Wayne Inuglak Clark,**  
Assistant Professor,  
Psychiatry; and director,  
Wápanachakos Indigenous  
Health Program

**Fulbright Arctic Initiative Scholar**, Wayne Inuglak Clark is advancing mental health assessment practices for Inuit communities.

Through his Fulbright exchange at Johns Hopkins University, Wayne has expanded the scope of his research on mental health in circumpolar regions. His project investigates how existing diagnostic tools, such as the Kiddie Schedule for Affective Disorders and Schizophrenia, can be thoughtfully adapted to align with Inuit Qaujimajatuqangit knowledge systems and community contexts. Central to his approach is the involvement of Elders and youth, whose perspectives inform a model that considers both clinical utility and cultural resonance. The project also engages with the broader policy environment and considers the importance of privacy in personal health information.

Now, working alongside community members and Elders in Arviat, Nunavut, Wayne has launched a mental health clinical trial that incorporates a version of a patient health questionnaire translated into Inuktitut. This initiative also examines how Inuit practices, including the role of country foods, may contribute to protect and support mental wellness.



**Vickie Baracos,**  
Professor, Oncology

In June 2024, Vickie Baracos was appointed to the **Order of Canada** for her work transforming our understanding of cachexia, a debilitating syndrome that causes rapid weight and muscle loss in patients with advanced-stage cancer, leaving them with a skin-and-bones appearance.

Over three decades she has developed groundbreaking insights into the fundamental biology of this complex condition. Her work has led to clinical classification and diagnosis, and has paved the way for treatment and improved patient outcomes.



**Richard Martin,**  
Assistant Dean, Northern  
Alberta Medical Program

**As a family doctor in northern Alberta**, Richard Martin knows first-hand the joys and challenges of working in remote parts of the province. “From a bedside to a boardroom to a basketball game, our work impacts all areas of our communities — from individuals to families, to schools, to sports and cultural groups, to municipal decisions and beyond.”

Martin takes inspiration from mentors and collaborators as he tackles this new role. He is also motivated to support the training of rural medical professionals who will understand, as he does, that “it is relationships that form the foundation of health and wellness, which are the key to recovery and healing.”

# Staff Leading with Purpose



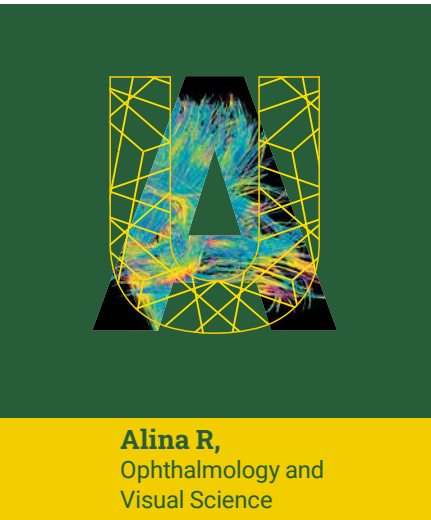
RaeAnne Barkhouse is an academic division administrator in the Department of Medicine. She was recognized with a 2024 University of Alberta Support Staff Recognition Award for her exceptional organizational skills and proactive engagement, which were pivotal during faculty recruitment and restructuring. Her peers and nominators say her commitment to fostering a collaborative culture has been crucial in supporting faculty and students, particularly during challenging times.

RaeAnne Barkhouse,  
Medicine



As a key administrator, Tabitha Nguyen was recognized with a U of A 2024 Excellence in Learning Support Award for ensuring smooth operations while providing personalized support to students. Her colleagues say her open-door policy and deep empathy create an inclusive environment that prioritizes student well-being, ensuring they feel valued both academically and personally. Nguyen's contributions have been integral to a thriving learning community in the Department.

Tabitha Nguyen,  
Medical Microbiology and  
Immunology



A standout lab technician, Alina Radziwon was given a U of A 2024 Excellence in Learning Support Award for going above and beyond to support students in the lab. Known for her dedication to training and willingness to help troubleshoot experiments, she fosters independence while promoting critical thinking. Her nominators state that her innovative approach and dedication to active learning ensure students thrive in an environment built on support and respect.

Alina R,  
Ophthalmology and  
Visual Science

# Serving the Community

**To make a lasting impact, our training and research must represent and serve our communities. We work in partnership with communities to address and understand their unique health care needs, promote equity and ensure our learners are prepared to provide culturally responsive, community-informed care. By embedding local voices and perspectives into our work, we are building a more inclusive and effective health system – one that truly serves all Albertans.**



## Indigenous Health

The Wâpanachakos Indigenous Health Program (WIHP) continues to grow holistic support of First Nations, Inuit, and Métis students to pursue health sciences in the FoMD. The dedicated team is making important strides to increase Indigenous representation and culturally grounded care in Alberta and beyond.

### 2024-25 highlights:

- Weekly tea and bannock events, Community Orientation Day, New Year's Sweat ceremony, ice fishing, and many other events to honour Indigenous traditions and bring the FoMD community together.
- Indigenous Culinary Pre-Clerkship Elective: Co-created with an Elder, the course taught students how to prepare and present traditional Indigenous foods.
- 9 students received the Indspire Award totalling \$189,000+ to support their education journeys.

Ashley Turner, past president of the Indigenous Medical and Dental Students' Association (IMDSA) and recipient of the Darcy Tailfeathers Memorial Award



## A legacy scholarship empowers Indigenous students to transform healthcare

Medical student Ashley Turner makes a point of taking time to share her story as a recipient of the Darcy Tailfeathers Memorial Award. Because, for Turner, this scholarship is more than financial support — it's a lifeline that connects her to a profound legacy of resilience, community and hope.

"This award was named after someone who paved the way for Indigenous students getting into medicine. It validates all the work I've done with IMDSA, and how I'm using my voice to better the system," says Turner. "It's these kinds of awards that make everything worth it, knowing that you're making an impact in the community."

Scholarships like the Tailfeathers Award create transformative pathways for students like Turner to achieve their dreams at the University of Alberta.

## Supporting Black excellence in health

A concerted effort to improve access for qualified Black medical students has led to changes in everything from admissions to curriculum and professional development. Black Health Lead, Eniola Salami continues to work to expand support, curriculum and programming in the FoMD to increase representation, access and equality.

### 2024-25 Highlights

- Three new Black Excellence in Medicine student awards introduced.
- Black Medical Students Association hosted its fourth annual Black Health Fair to encourage Black high school and undergraduate students to consider a career in health care and to provide health information to the wider community.

## Rural & regional health



In spring 2025, the NAMP working groups gathered at the Northwestern Polytechnic Health Education Centre at the Grande Prairie Regional Hospital. The gathering included an engagement session with Indigenous community members from Treaty 8 and the Métis settlements.

## Introducing the Northern Alberta Medical Program

The new Northern Alberta Medical Program began its very first fall term in September 2025 thanks to funding from the Alberta government and a partnership between the U of A and Northwestern Polytechnic. The cohort of 30 students will take all medical training in Grande Prairie and other northern Alberta communities, ultimately transforming rural health care in the north.

"When you bring in a sustainable physician care delivery model, it attracts other health-care professionals and it starts to build up the capacity of the system as a whole," says Darryl Rolfson, associate dean of undergraduate medical education for the Faculty of Medicine & Dentistry and an internal and geriatric medicine specialist who practises in Athabasca, Westlock and Edmonton. "Once you have that excitement and capacity for health care, it actually strengthens the whole community."

## Camrose welcomes family medicine residents

This year, the Department of Family Medicine's residency program welcomed Camrose as a training site in the residency rural stream, with Amber Jorgensen and Jeff Bennett as site co-directors. Both Jorgensen and Bennett work as rural health practitioners and look forward to the opportunity to share the joys of that experience with the residents they will be mentoring.

In addition to a main preceptor, learners will get to know the town's family physicians and the expansive specialist team. "We're big enough to have three general surgeons, an orthopedic surgeon, a plastic surgeon, an internist and soon two obstetricians — a hospitalist team that covers the whole hospital," says Bennett. "We're a stroke centre. So while we are a rural site, we can handle a lot."

## SHINE dental clinic marks 20 years

**At the SHINE dental clinic in inner-city Edmonton, students from the Mike Petryk School of Dentistry provide about \$8,000 worth of care each week free of charge to vulnerable Edmontonians.**



The Student Health Initiative for the Needs of Edmonton Clinic — now known simply as SHINE — was started in 2005 by then-dental student Amreesh Khanna, who now runs dental practices, an AI startup and a charity in Calgary.

“I knew that this was something that could really make a difference and create a legacy for the school to give back to the community, but also an opportunity for students to get exposure to this type of care and practice,” Khanna says. “Seeing it still going 20 years on is something I’m very proud of.”

There are roughly 300 volunteer spots each semester for students to serve between 25 and 35 patients each week. The patients are drawn from Edmonton’s most vulnerable populations — newcomers to Canada, shelter residents, people with low incomes and those who don’t have insurance, according to Suzanne Depledge, associate clinical professor and the faculty liaison for SHINE.

All of the dental work the students do is supervised by a volunteer dentist and hygienist who serve as licensed preceptors, as well as a paid staff member from Radius Community Health & Healing (formerly Boyle McCauley Health Centre). Complex cases beyond the scope of the student clinic are referred to the U of A or private clinics.

“These are people who need urgent care, and our students are down there every Saturday on their day off providing dental care for emergencies,” says Depledge. “We’re happy to give them any support they need.”

Third-year dental hygiene student volunteer Elias Jirgees moved to Canada as a child and wasn’t able to go to the dentist often because of the financial burden. “As a kid, I could see the sacrifice my parents made to provide me with dental care. When I got into the dental hygiene program and learned there was an initiative to provide free dental care, I was all in to help.”

SHINE founder Khanna now lives in Calgary with his family, but he continues to support SHINE with two scholarships for students who volunteer and lead the SHINE initiative.

“The impact they make on the community and patients they take care of — it is tremendous,” he says.



## Power in Partnership

**The FoMD is home to eight research institutes. These collaborations lead to incredible discoveries, development of new treatments and improved care for people around the world.**

### Alberta Diabetes Institute

2025 marked 25 years since the Edmonton Protocol was first published by a team of University of Alberta researchers in the New England Journal of Medicine. “The Edmonton Protocol evolved out of desperation as a last-ditch attempt, and honestly I did not think it would work!” recalls James Shapiro, professor of surgery, Canada Research Chair in Transplantation Surgery and Regenerative Medicine and lead author on the original paper. “When the seventh patient was insulin-free with excellent sugar control, it was clear we had something special — and strikingly different from what had gone before.”

“Today, more than 3,000 islet transplants have been carried out worldwide.”

The Alberta Diabetes Institute’s 50-plus members continue to improve the protocol and develop better treatments for the more than 450 million people around the world who live with all types of diabetes.

## Alberta Transplant Institute

**Over the past year ATI has collaborated with Give Life Alberta to increase the number of organ donations in the province.** By implementing Donation Physician Specialists, a sustained reduction in missed organ donation opportunities and increased referrals, a higher deceased donation rate was achieved.

**Celebrated U of A kidney transplant expert** Philip Halloran and his team also published new research in *Nature* of a randomized controlled trial for felzartamab, a newly developed drug that suppresses a process now known as antibody-mediated rejection (ABMR), which is the culprit behind about half of all transplanted kidney failures.

Researchers in Vienna, Berlin and Edmonton, led at the University of Alberta by Halloran and his team, examined biopsies at the molecular level from 10 patients treated with the drug and 10 placebo patients at the pre-treatment, end-of-treatment (six months) and post-treatment stages (six months later).

All patients with active rejection who took the drug showed suppression of rejection activity. The treated group also showed less damage to their kidney tissue than the placebo group, even after treatment was stopped, suggesting the drug could delay organ failure. Though the drug must still undergo further clinical trials, Halloran hopes that one day it will be used on a regular basis to prevent kidney failure indefinitely in some patients.

## Cancer Research Institute of Northern Alberta

A hub of leading-edge cancer research, CRINA brings together scientists and clinicians to translate discoveries into new therapies and better outcomes for patients facing cancer.

CRINA also supports students at both undergraduate and graduate stages. The Institute hosts seminars, workshops, presentations and an annual Research Day to bring students together with senior scientists to learn about ongoing research, discuss projects, build skills and get feedback.

CRINA studentship awards also provide valuable funding for innovative projects across the cancer continuum. In 2024/25, CRINA awarded over \$150,000 in studentships. In addition, in collaboration with the Alberta Cancer Foundation and Kids with Cancer Foundation, CRINA awarded over \$80,000 in summer studentships.

## Cardiovascular Research Institute

Dedicated to improving heart and vascular health, the institute advances life-saving treatments and prevention strategies through interdisciplinary research and clinical innovation.



Philip Halloran



## iSMART - The smartwear revolution begins

iSMART (Integrated Strategic Management and Applied Research and Training) empowers healthcare innovation by connecting data, systems, and training to improve decision-making, streamline care, and transform health service delivery.

**In March 2025, the team was awarded \$24 million over six years from the federal government, to work on smartwear technology that could increase independence and quality of life for millions of people.**

“We’re starting a revolution to create light, washable, affordable assistive technology that will be indistinguishable from your current clothing,” says project lead Vivian Mushahwar, professor of medicine, Canada Research Chair in Functional Restoration and director of iSMART and Smart Technology (ST) Innovations.

Mushahwar is a global expert in neural and rehabilitation engineering with a track record of leading successful interdisciplinary teams and commercializing adaptive devices.

With this project, Mushahwar brings together 64 researchers and collaborators from the U of A and across Canada, the United States and Europe. The team includes fashion designers, disability advocates, clothing manufacturers, visual artists, even a choreographer, as well as researchers from eight faculties across the College of Health Sciences, the College of Natural and Applied Sciences, and the College of Social Sciences and Humanities.

Mushahwar says the U of A's core facilities, well-equipped laboratories and strong support for interdisciplinary research allowed the project to win one of just six transformation grants from Canada's New Frontiers in Research Fund for high-risk, high-reward research this year.

Twenty-five per cent of Canadians have some form of muscle weakness for a variety of reasons ranging from sprains and broken bones to spinal cord injuries, strokes and aging. Current adaptive technologies such as exoskeletons, braces or electrical stimulation devices are often expensive, uncomfortable and impractical.

"Smartwear will improve quality of life," says Verna Yiu, professor of pediatrics and provost and vice-president (academic) of the U of A, "but also — if we can keep people healthy and out of hospital — it will make our health-care system more sustainable."

The team puts future users at the centre of development, starting at the concept stage five years ago. Three groups — older adults who are at risk of falls and mobility loss, people with disabilities who could use additional support to complete daily activities, and health-care workers at risk of workplace injury — have been included in the design process.

The research team has already invented several classes of composite materials that can sense temperature, strain and pressure and change their shape, size and stiffness. The challenge now is to create fibres from those materials to be woven into clothing. Sensors that use artificial intelligence will be embedded to determine user intentions — to move an arm, lift a heavy object or stand — and actuators that change the fabric as needed will make those intentions a reality, all of it powered by tiny batteries that look like buttons.

The project will provide unique training opportunities for 120 undergraduate summer students and nearly 70 graduate and postdoctoral students over the six years.



## Li Ka Shing Institute of Virology

At the forefront of global virology research, this institute has made breakthrough contributions in infectious disease prevention, vaccine development and antiviral therapies. Over the past year the institute awarded more than 13 student awards and 14 research awards and grants, and collaborated with the Faculty of Medicine & Dentistry to support the recruitment of key leadership roles to advance critical research.

## Neuroscience and Mental Health Institute

This institute leads transformative research into brain and mental health disorders, unlocking new understanding and treatments that support the well-being of individuals and communities.

This year, the NMHI CONNECTIONS exhibit at the Royal Alberta Museum was the signature community outreach event for the Institute. The collection of artwork and scientific images portrayed the many aspects of neuroscience, brain diseases and mental health disorders and their intersections with art and life.

The Neuroscience Undergraduate program, an interdisciplinary program offered jointly by the Faculty of Science and the NMHI, covers all aspects of brain function, including brain development, nerve cells and synapses, sensation and perception, learning and memory, control of movement, animal behavior, cognitive psychology, and disorders of the nervous system. It is one of the largest undergraduate programs with approximately 300 students in the Honors and Major streams.



NMHI CONNECTIONS exhibit co-curators Dr. Simonetta Sipione, professor, Pharmacology; and Marilène Oliver, associate professor, Printmaking and Media Art.

## Women and Children's Health Research Institute

WCHRI made great leaps this past year through a number of initiatives including the launch of the Realizing Healthier Pregnancy Research Cluster to advance and lead transdisciplinary women and children's health research on a national and international level.

The Institute also collaborated with FoMD's Cell Biology, Medical Genetics and Pediatrics to establish a new Human Induced Pluripotent Stem Cell (hiPSC) Shared Resource Lab (SRL). This initiative will enable essential research infrastructure and expertise.

# Thank You — Your Generosity Has Lasting Impact

**\$61.85M**

given to FoMD  
by donors

**\$1.38M**

scholarships/bursaries  
awarded to students

## Donor Spotlights



Susan, Pat, Mike and Bob Petryk (centre) were joined by U of A president Bill Flanagan (left), provost Verna Yiu (second left), dean Brenda Hemmelgarn (second right) and dentistry chair Paul Major (right) for an event on Sept. 10 commemorating the naming of the Mike Petryk School of Dentistry. (Photo: Alex Pugliese)

### Family gifts School of Dentistry \$10 million

Mike Petryk was a dental student at the University of Alberta in the 1950s. Now, following a career of more than 40 years in dentistry with a sideline in Calgary real estate investment, he hopes to inspire future students to follow in his footsteps. In September 2024, he, his wife Pat, and their children Bob and Susan made a \$10-million donation to the newly named Mike Petryk School of Dentistry.

The four Petryks came up with the idea of donating to the University of Alberta together, as a way to honour Mike's long career, work ethic and values. "If there's any way that we can help students to have a better life and be happy, that's what we want, because we've just had a fabulous life," says Pat.



Dr. David Collister, a recipient of the Gusse family's nephrology funding, shows their family how to perform an ultrasound.

### Supporting life-saving kidney research & treatments

When Larry Gusse went into near-fatal kidney failure, his daughter Natalie Ruhl didn't hesitate to offer him one of hers. Doctors estimated a seven-year wait for a public donor — time he likely didn't have.

Thanks to Natalie's gift, Larry is back at work part-time, volunteers with his church and spends time with his nine grandchildren. And his journey inspired the family to give back, with \$500,000 to support four new nephrology research projects and provide equipment for home dialysis patients. They've also pledged \$1 million to support the new AI + Health Hub, "using data to improve health and wellness" — an approach close to their hearts after Larry's experience.

"We want to make a difference so others do not have to go through what we have gone through," says Natalie.

# FoMD Alumni Make a Difference

Our alumni make a profound impact locally and globally — advancing healthcare, driving research and serving communities. Their achievements reflect the strength of their education and the values instilled during their time at the university, inspiring the next generation of health leaders.

**18,118**

FoMD Alumni  
around the world

Find more profiles and videos at [uab.ca/fomd-impact-report](https://uab.ca/fomd-impact-report)



**Atul Malhotra**, '88 BSc, '92 MD - Distinguished Alumni Award

A global authority in breathing and sleeping issues, Atul Malhotra is leading research, treating patients, and mentoring the next generation of doctors to help people who struggle with these necessities of life. As an academic physician, Malhotra has specialized in sleep apnea while also working with patients experiencing disorders ranging from respiratory failure and sepsis to narcolepsy.



**Stephanie Liu**, '13 MD, '15 PostgradCert(MedEd) - Alumni Horizon Award

Motherhood inspired family physician Stephanie Liu to become an online innovator who delivers evidence-based health information for moms and little ones. Her blog, Life of Dr. Mom, shares credible information with 150,000-plus followers. In addition to her medical practice and work as a U of A assistant clinical professor, Liu is also an entrepreneur.



**Fatima Mraiche**, '04 BSc(Spec), '10 PhD - Alumni Honour Award

Fatima Mraiche is a transformative educator whose work to promote teaching standards is guided by her lab excellence, classroom effectiveness, and firm belief that students deserve care, support and knowledge. A U of A associate professor, Mraiche became the university's Vargo Teaching Chair in July 2023, recognizing her dedication to promoting academic teaching practices and curriculum innovation.

# Leading with Purpose.



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