



Frontline

Through the Valley of Death

Pharmaceutical sciences researchers are re-engineering drug development to be faster, cheaper and more effective

Better Together

Thank you for being a part of our team

AS I LOOK ACROSS THE LANDSCAPE of our profession, I am struck by how quickly the boundaries of pharmacy and pharmaceutical sciences are expanding. On these pages, I invite you to explore how the members of our community are becoming architects of health-care delivery and engines of scientific breakthrough.

In this issue, our feature story takes you inside the formidable gap between a researcher’s “aha!” moment and a patient’s bedside. The road to new therapeutics can be slow and expensive, but our researchers are re-engineering this journey. From Amir Tabatabaei’s use of artificial intelligence to screen compounds and the precision nanomedicine pioneered by Afsaneh Lavasanifar to Michael Doschak’s work in bone-targeting therapeutics, we are reclaiming time for patients who don’t have a moment to spare.

But innovation isn’t limited to the lab. To serve our communities, our profession must reach every corner of the province, so we are creating new educational pathways that bolster rural and Indigenous health care. By lowering barriers to education and tailoring our experiential learning opportunities to meet the unique needs of these communities, we are ensuring that high-quality pharmacy care is not a matter of geography.

None of this — the accelerated research, the expanded scope of practice or our community outreach — happens in a vacuum. It is the result of a powerful, interconnected ecosystem.

I want to extend my sincere thanks to our entire Faculty of Pharmacy and Pharmaceutical Sciences community — to our staff and faculty, who keep our mission moving forward; to our students, who bring fresh energy and purpose; to our preceptors, who give our students the hands-on experiences they need to succeed; and to our grads, donors and industry partners, whose support provides the foundation for our success.

As Michael Doschak so aptly puts it in our feature story: together, we are “passing the puck to go for the gold.” Thank you for being on our team, for your dedication to the frontlines of health and for your continued support of this faculty.

Christine Hughes

Christine Hughes, '94 BSc(Pharm)
Dean, Faculty of Pharmacy and
Pharmaceutical Sciences



Amir Tabatabaei, who focuses on medicinal chemistry and translational drug discovery for obesity and Type 2 diabetes, is using AI to hasten the process of identifying promising drug candidates.

COVER AND TOP PHOTOS BY CURTIS COMEAU PHOTOGRAPHY

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Frontline

The University of Alberta Faculty of Pharmacy and Pharmaceutical Sciences is located on Treaty 6 territory, the traditional lands of the Cree, Saulteaux, Blackfoot, Métis, Dene and Nakota Sioux Peoples. At our faculty, we come together on this land to learn and share knowledge about pharmaceutical drugs and their use in improving the health of our communities. We acknowledge that this education has been shaped by a colonial view of health.

We are committed to continuously learning from Indigenous knowledge holders, reflecting on the harm caused by colonial health frameworks and actively working toward reconciliation. This includes understanding how we can give back to the land, not only as guests but as stewards, while taking tangible actions to build partnerships with Indigenous and minority communities. Through ongoing efforts to engage community, we aim to foster meaningful collaborations that contribute to the reclamation of health and wellness.

We are on a learning journey about how to create a supportive, inclusive environment that promotes well-being, psychological safety and anti-racism for all members of our community. In all of these efforts, we recognize the critical importance of land, culture and spirituality, and we will make space for Indigenous leadership as we walk together on this path toward healing and reconciliation.

The Faculty of Pharmacy and Pharmaceutical Sciences has served as Alberta’s sole pharmacy school since 1914. We hold consistent rankings among the top four institutions in Canada, top 50 globally and top 15 for global research. Frontline is dedicated to highlighting the achievements of our community.

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The Faculty of Pharmacy and Pharmaceutical Sciences is part of the College of Health Sciences, which brings together the combined strength of all health sciences faculties and schools across the U of A to enable a new level of interdisciplinary health science research and teaching. This college also includes the faculties of: Kinesiology, Sport, and Recreation; Medicine & Dentistry; Nursing; Public Health; and Rehabilitation Medicine.



The Dose

WHAT'S NEW AND
NOTEWORTHY



208

The number of research papers published in peer-reviewed publications in 2025



NEW FRAMEWORK

Blueprint for Better Care

NEW TOOL TO
STANDARDISE
PATIENT CARE IN
THE CLASSROOM —
AND THE CLINIC

As pharmacists' scope of practice continues to expand across Canada, a U of A team of clinical professors has created a blueprint to ensure clinical consistency. The recently renewed Patient Care Process (PCP) is a framework that standardizes how pharmacists provide direct patient care through a four-stage cycle: collecting data, assessing the patient, developing a care plan and reassessing outcomes.

Jill Hall, '01 BSc(Pharm), '01 BSc(Spec), a clinical professor and PharmD program director, says this systematic approach is designed to become innate for pharmacists, helping them navigate the increasing complexity of their role. While integrated early into student education through theory and simulated

skills labs, the process is also gaining national attention as a vital resource for established professionals.

"I would like pharmacists nationally to be aware of our Patient Care Process," Hall says. "Because the way we've laid things out is straightforward, regardless of what province they're in or what their scope of practice is."

The real-world impact is already being felt by graduates like **Chris Wright**, '23 PharmD, a community pharmacist who uses the Patient Care Process to manage patients with multiple, interacting health issues. He notes that the framework acts as a safeguard, ensuring no steps are missed during complex consultations. He says that by modernizing the language and assessment tools, the faculty has created a living document that bridges the gap between academic excellence and frontline patient advocacy.

—ADRIANNA MACPHERSON

FACULTY PHOTO

GETTY IMAGES



POST-MENOPAUSAL CARE

Hormones and Heart Health

Researchers develop heart-protective drugs for post-menopausal women

THE AVERAGE LIFESPAN OF CANADIAN women is 83.9 years. They tend to start menopause between the ages of 45 and 55, which means they can spend as much as 46 per cent of their lives without the hormones estrogen and progesterone protecting their hearts.

As a result, cardiovascular disease is the second leading cause of death in Canada, and more women than men die of it each year. Treatment with hormone replacement therapy is an option, but it comes with an

elevated risk of breast cancer.

Now, a pharmacy research team has been granted more than a million dollars by the Canadian Institutes of Health Research to develop safer, more effective drugs to prevent heart disease in post-menopausal women.

"Hormone replacement therapy is not good for people who have a personal or family history of breast cancer," says principal investigator Ayman El-Kadi, professor and associate dean of research and graduate studies in pharmacy and pharmaceutical sciences. "We're trying to find a better alternative."

Along with co-investigator **Dion Brocks**, '79 BSc, '82 BSc(Pharm), '86 PharmD, '93 PhD, El-Kadi's team will build on previous work to examine the role of compounds naturally produced by the enzyme

Research Revenue

The faculty's total in the 2025-26 fiscal year was

\$3.1M

called cytochrome P450 (CYP). CYP regulates the production of hormones and other compounds that the body turns into metabolites that are either protective of or toxic to the heart.

The team has already identified which compounds cause harm to the heart and play a significant role in cardiovascular disease during menopause. Now, they are working with biochemists at the University of Texas to develop stable compounds that interfere with the harmful metabolites and encourage the production of protective metabolites. Multiple CYP-derived metabolites are currently under investigation in human clinical trials.

"The drugs are similar to naturally occurring compounds, but there is a small modification so they cannot be degraded by the body," explains El-Kadi. "They are similar to the good metabolites that are produced by the CYP, but they are more stable, so they can be used as drugs."

During the five-year grant period, the team will test the compounds in rats and in tissue donated by post-menopausal women who had heart disease. —GILLIAN RUTHERFORD

Did You Know?

University Commons has transformed the former Dentistry/Pharmacy Centre

UCommons officially opened its doors in September 2025. It is a multi-functional building and gathering place that supports student services, academics, administration and community. Originally built in phases starting

in 1922, the renewal of the iconic structure blends old with new to create a bright, modern, dynamic space for learning, teaching and research. UCommons also houses Métis beadwork-style art by Christi Belcourt, student-designed multi-purpose rooms, a new GREEN+GOLD store, a coffee shop and so much more.

Next time you're on campus, stop by to take a look!



University of Alberta

RENAL HEALTH

‘Super Kidney’ Solution

Kidneys that work too well flush out life-saving medications. Better diagnosis could lead to more accurate dosing

A PHARMACY RESEARCHER IS LEADING a study that could help save the lives of people in intensive care whose kidneys work too well, flushing out critical medications before they can do their job.

Sherif Mahmoud, '10 PhD, associate professor and associate dean, academic, in the Faculty of Pharmacy and Pharmaceutical Sciences explains that people with augmented renal clearance (ARC) have “super kidneys” that eliminate everything very quickly — the exact opposite of people with kidney failure or renal disease, whose kidneys are inefficient and struggle to filter out toxins.

The most common method to assess kidney function — by blood sample — largely fails to detect ARC. The optimal method involves eight to 24 hours of urine collection, but that isn't practical in many clinical settings.

Mahmoud's five-year study, done in collaboration with the University of Kentucky, involves about 300



Sherif Mahmoud (left) and his research team are leading a study to better diagnose “super kidneys” in neuro-intensive care patients and develop dosing guidelines to ensure critical medications work effectively.

patients so far, and researchers are aiming to include about 500 in total.

“Hopefully, the end result will be a new prediction tool, so when a patient comes into the ICU, based on their characteristics and some risk factors, we’ll be able to accurately determine whether they have augmented renal clearance,” says Mahmoud, who was named Canadian Pharmacist of the Year in 2024.

Identifying ARC is only part of the challenge, he notes. Clinicians also need to know the optimal dosage for

patients with super kidneys.

Toward that goal, Mahmoud and his collaborators have begun using computer simulations to analyze the appropriate dosages of seven critical medications commonly used in the ICU — the antibiotics vancomycin, meropenem, piperacillin-tazobactam, cefepime and acyclovir, along with two anti-seizure medications, levetiracetam and lacosamide.

“This way, we can create actual guidelines for clinicians,” says Mahmoud. –ADRIANNA MACPHERSON

CANCER

A Vaccine for Cancer

What if your immune system could detect and destroy cancer cells as easily as it fights a cold?

For Saba Ismail, a second-year PhD student who was awarded the Vanier Canada Graduate Scholarship and the Alberta Innovates Graduate Student Scholarship Award, that vision is not science fiction. It's the future she's working to build.

Driven by the loss of her aunt to cancer, Ismail is at the forefront of a

revolutionary shift in cancer treatment: personalized cancer vaccines. These aren't vaccines in the traditional sense, but powerful therapeutic tools designed to mobilize a patient's own immune system to recognize and eliminate cancer cells — guided by insights from artificial intelligence.

Her work, in the lab of pharmacy professor **Khaled Barakat**, '12 PhD, uses deep learning models to identify “neoantigens” — unique markers on cancer cells that act as red flags for the body's T cells, which participate in immune response.

While currently focused on

melanoma, the team eventually wants to create an automated pipeline capable of identifying ideal vaccine candidates for any cancer type. Using computational biology, Ismail narrowed 750 potential targets down to eight high-priority candidates, creating a theoretical vaccine that has shown promising results. The next step is further testing in the lab followed by clinical trials.

“This isn't just about code or computation,” Ismail says. “It's about building a future where cancer is no longer a death sentence.”

–ADRIANNA MACPHERSON

PHOTO SUPPLIED

FACULTY PHOTO

EQUITABLE CARE

Diversifying Dermatology

Aiming to address a lack of diversity in dermatology education, **Ravina Sanghera**, '07 BSc(Pharm), '23 MHSE, clinical associate professor in pharmacy and pharmaceutical sciences, and **Parbeer Grewal**, '02 BSc(Spec), '06 MD, a clinical professor in medicine, have co-authored “Dermatological Considerations in Skin of Colour,” a new chapter in the *Compendium of Pharmaceuticals and Specialties*, the main reference used by pharmacists across the country.

“There are data showcasing that those with different skin tones — because they are not being diagnosed accurately or face delays in diagnosis — are actually having increased morbidity or impact from their disease,” says Sanghera.

The new chapter includes information on how common dermatological conditions may present or be managed differently in skin of colour. The chapter also provides guidance on a more inclusive approach to care that integrates cultural factors and relevant context into any recommendations, Sanghera explains.

–ADRIANNA MACPHERSON

JAW PAIN

Something to Chew On

Antidepressants help chronic jaw pain

Certain antidepressants can help alleviate chronic jaw pain caused by temporomandibular disorders, or TMDs, according to a team of dentistry and pharmacy researchers.

Many people with chronic TMD pain — a group of conditions that affect the jaw joint and the surrounding muscles — experience anxiety and depression. Previous studies have shown certain antidepressants can help manage other pain conditions, so the researchers sought to examine how effective these medications might be in relieving TMD-related pain. They looked at past studies involving adults who had TMD pain for at least three months and who were being treated with antidepressant medication.

The researchers found that several tricyclic antidepressants and serotonin-norepinephrine reuptake inhibitors were effective at reducing TMD pain, while some selective serotonin reuptake inhibitors performed no better than the current standard of care for chronic TMD pain. That suggests that norepinephrine may be a key piece of the puzzle, says **Nathan Beahm**, '16 PharmD, co-author of the review and clinical associate professor.

Similar to treating other pain conditions, he says, the antidepressants were most effective when combined with other treatments because the pain is being treated from “a couple of different avenues.” –ADRIANNA MACPHERSON



PUBLIC HEALTH

Beyond the Counter

Pharmacists play key role in harm reduction

PHARMACISTS HAVE long played an important role in public health, often serving as an accessible point of care, particularly for people who may face barriers to obtaining health care in hospitals or clinics. This includes harm-reduction initiatives for people who use drugs.

Motivated in large part by the current toxic overdose crisis, a team of researchers — including first author **Javiera Navarrete**, '21 MSc, a doctoral student in the School of Public Health who holds a master's in pharmacy practice — catalogued and published a scoping review protocol of pharmacists' roles in drug-related harm reduction.

It is anecdotally known that pharmacists provide a wide range of harm reduction services, including naloxone distribution and syringe and needle programs, as well as screening, testing and treatment for infectious diseases such as hepatitis C. They're

also often involved in interdisciplinary teams within mobile units that can go where they're needed in communities.

The “big picture” view offered by the scoping review helps identify potential gaps in education, practice and research that can then be addressed with targeted efforts and interventions, says Navarrete.

“We know pharmacies are access points,” she says. “If we pair that with all the internationally available literature in terms of what's possible in the profession, we can leverage that access point to support people and to contribute to the public health response to the drug overdose crisis.

“This evidence is also available for others, so educators, policymakers or other health-care leaders can use this guide or map to consider expanding services, or consider barriers or challenges that they maybe haven't thought about yet.”

–ADRIANNA MACPHERSON



Afsaneh Lavasanifar (centre) and her team use nanomedicine to develop drug delivery systems that lead to treatments that are easier on patients and allow them a better quality of life.

Through the Valley of Death

PHARMACEUTICAL SCIENCES
RESEARCHERS ARE RE-ENGINEERING
DRUG DEVELOPMENT TO BE FASTER,
CHEAPER AND MORE EFFECTIVE

By Sasha Roeder Mah

Photos by Curtis Comeau Photography

THE ROAD BETWEEN DISCOVERING a biological drug target to treating a patient is often described as the “valley of death.” It can take up to 20 years for a drug to get from bench to bedside — and 90 per cent of drug candidates fail somewhere along the way.

Researchers in the Faculty of Pharmacy and Pharmaceutical Sciences are working hard to make drug development faster, cheaper and more effective. With experts situated along the development route, the environment is rich for breakthroughs.

AI-DRIVEN DISCOVERY

“There is a saying in drug discovery,” says **Amir Tabatabaei**, ’20 PhD, assistant professor. “If the search is going to fail, it’s best to fail fast and cheap.”

Tabatabaei, who focuses on medicinal chemistry and translational drug discovery for obesity and Type 2 diabetes, is finding ways to hasten the process of identifying drug candidates, which usually takes years of trial and error.

Typically, the process starts with validating a biological target and screening massive chemical libraries. Medicinal chemists then balance a precarious set of trade-offs: a molecule must bind to its target effectively and remain highly selective to avoid toxic “off-target” interactions. The drug candidate must also meet criteria for absorption, distribution, metabolism and excretion.

Tabatabaei is familiar with this balancing act. Existing GLP-1 agonists — a class of medications that treat Type 2 diabetes and obesity by mimicking a natural hormone in the body called GLP-1 — effectively reduce a patient’s weight. However, as much as 40 per cent of that weight loss may come from the lean mass, which is not healthy. Tabatabaei’s research focuses on discovering drugs that promote weight loss while sparing muscle mass and ensuring a higher quality of long-term health. But the search is slow and meticulous.

This is where Tabatabaei’s lifelong passion for coding — something he honed on his own time during the COVID-19 pandemic — comes in.



Michael Doschak researches bone disease in the Pharmacy Micro-Computed Tomography Imaging Lab, which allows researchers to see, in 3D and real-time, how treatments affect bone density in animal models.

His new platform uses artificial intelligence computer modelling to accelerate drug discovery through an iterative process — it learns every time it's used. Tabatabaei intends for it to become the foundation of a fully automated facility that screens up to 200,000 compounds daily. The facility will include a liquid handler (a kind of “automated scientist” that prepares drug candidates to be tested), a surface plasmon resonance (a type of biosensor that can measure the interactions between the candidate and its target) and a robotic arm to load the candidates from the liquid handler into the surface plasmon resonance.

“The hope is that this will be able to find the drug for the target that we want in a matter of hours rather than years,” says Tabatabaei.

OUT FOR DELIVERY

Researchers specializing in drug delivery are focused on designing a vehicle to ensure a drug candidate reaches its intended target with maximum potency and minimum side-effects.

Michael Doschak, professor, has been researching bone disease for more than two decades to find better ways to guide medications past what he calls the “concrete sarcophagus” of mineral that encases bones and teeth. His bone-targeting therapeutics aim to reduce the pain and suffering attributed to bone diseases such as osteoporosis, arthritis and bone pain due to cancer.

“When we take pills orally, they're absorbed and distributed through our soft tissues and organs,” he says. “But bone tissues need a different approach.”

Doschak's team uses organic chemistry to re-engineer existing compounds with special “cleaving” characteristics — meaning the ability for a drug to be separated from its transport mechanism when it reaches its target. This also helps it bypass other organs, reducing toxic side-effects in the liver and kidneys and promoting the release of the medication primarily where it's needed.

To test his discoveries, he uses the Pharmacy Micro-Computed Tomography Imaging Lab — a facility he established at the faculty in 2007 and has managed ever since. Micro-CT imaging allows researchers to see, in 3D and real-time, how treatments affect bone density in animal models. Doschak's is the only in vivo micro-CT facility operating from within a faculty of pharmacy and pharmaceutical sciences in Canada.

The equipment takes a series of 2D x-ray projections, which are stacked to make a 3D reconstruction. Researchers can then examine the micro-architecture of the bone to identify characteristics like thickness and porosity. This type of imaging speeds up discovery by allowing researchers to see internal changes of the bone non-destructively instead of waiting until the end of a months-long study to harvest samples and look under a traditional microscope.

“In the last 15 years we've secured four U.S. patents,” says Doschak. “We've found a better way of delivering two peptide hormones, which have an incredible activity on bone cells. It can block osteoporosis or help grow new bone mass for people who have lost it, such as the elderly, and it has been proven to outperform current bone medications in pre-clinical imaging models of rats.”

A RACE AGAINST THE CLOCK

So how does a properly packaged drug candidate get out of the lab and into the hands of patients?

Afsaneh Lavasanifar, '01 PhD, professor, has been working on cancer drug delivery systems for more than 20 years. Her lab uses the precision of nanomedicine to package promising cancer drug candidates that are not water-soluble into extremely small transport vehicles (nanoparticles) that solubilize the medication, deliver it to where it's needed and keep it away from where it shouldn't be.

In 2007, she patented her nanomedicine delivery platform. Patenting is critical to the eventual development of approved medications, Lavasanifar says. It not only protects the intellectual property of the researcher, it also encourages industry partners to get on-board with clinical trials and final formulations. But securing a patent is neither fast nor cheap.

A patent's 20-year lifespan starts at discovery. Scientists must prove that their drug is functional and “non-obvious,” meaning it's something that other researchers wouldn't have thought of. This can easily cost hundreds of thousands of dollars in government fees and specialized legal counsel. In Lavasanifar's case, she recruited angel investors, applied for grants from organizations like Alberta Innovates and invested some of her own money into the process. Often, the entire clinical trial lifecycle — including safety, efficacy and comparison trials — also unfolds while the clock is ticking.

“Our patent process was relatively fast — and by relatively fast, I mean about five years,” Lavasanifar recalls. What keeps her motivated, she says, is “dealing with a disease like cancer, and the harsh side-effects we all know the therapeutics to have.

“You can make a real difference in patients' lives by bringing the side-effects of a drug like chemotherapy

The hope is that this will be able to find the drug for the target that we want in a matter of hours rather than years.

down,” she says.

That's why she launched a spinoff company, Meros Polymers: to make her nanomedicine delivery platform accessible to others. Meros, which holds the licence for Lavasanifar's delivery-system technology, is using it to solve problems associated with existing medicines, repurpose older drugs and improve the therapeutic performance of new compounds — ultimately leading to treatments for more diseases that are easier on patients and allow them a better quality of life.

MAKING UP FOR LOST TIME

After years of working its way through the development pathway, one of Lavasanifar and her team's cancer-treating drug candidates — an inhibitor of DNA repair — is now licensed to cancer research company

Onco-Innovations for clinical trials. Doschak has moved several of his osteoporosis drugs to secure U.S. patents and is ready for a drug company to license them. Tabatabaei is applying for a grant from the Canada Foundation for Innovation in partnership with the U of A's Cardiovascular Research Institute to kick-start his drug discovery facility.

At all points in the drug development process, the faculty's mission remains clear: ensure that the next life-saving breakthrough makes it out of the lab and into the hands of the people who need it most.

“The faculty has the know-how,” says Doschak. “It takes leadership and cooperation to get all the players skating in the same direction. Instead of everyone having their own puck, we're passing the puck to go for the gold.”



Left to right: Michael Doschak, Amir Tabatabaei and Afsaneh Lavasanifar.

Compounding

ALUMNI AND FRIENDS IN ACTION

Looking for In Memoriam?

You can find information about the passing of U of A graduates in *New Trail* magazine. Subscribe at

uab.ca/subscribe

WHAT YOU'VE BEEN DOING

Class Notes

We'd love to hear what you're doing. Tell us about your new job, career pivot, latest award or new baby. Celebrate a personal accomplishment, tell us about your volunteer activity or share a favourite campus memory. Submit your class notes to phcomms@ualberta.ca. We edit for clarity, length and style.

REUNITED

Rhonda Kimmett Wilson, '73 BSc(Pharm), enjoyed a three-day reunion in Canmore, Alta., with the Class of 1973. "Fifty-two years after graduation, twenty-two classmates and fourteen partners enjoyed reliving their time spent at the U of A," she says. "Great fun was had recalling university time, careers in pharmacy, adventures and family life."

PHARMILY FIRST

Yu "Kevin" Zheng, '25 PharmD, is a pharmacy manager at a rural Loblaws store, and is completing the process to gain his Additional Prescribing Authority. Soon, he hopes to give back and become a preceptor. He also writes that he and his "pharmily" are heading off on an ice-fishing trip before the snow melts.

NEW DIGS

Peter Tsougrianis, '97 BSc(Pharm), is the national sales manager at Incyte Biosciences Canada.

FULL CIRCLE

Selma Rhodes (Mah), '83 BSc(Pharm), wrote in to reflect on a robust career. "I've lived and worked in Spokane, Washington, since 1995," she says. Since then, she has worked in retail, long-term care and hospital pharmacy. "Now I am enjoying a slower, but still challenging, pace at an independent pharmacy. I started my career at an independent pharmacy and am likely closing it with an independent. There have been ups and downs, but pharmacy has been good to me. I look forward to retiring in two years and spending time with family and friends north and south of the 49th parallel."

PASSION PROJECT

After retiring in 2024 from "a fulfilling and varied career in pharmacy," **Stephanie Morton (Adamic)**, '91 BSc(Pharm), is following a new path. "I indulged my passion for English genealogy and family history," she says. "During the pandemic,

I began researching my maternal ancestry in the English Midlands and decided to go further. I've recently obtained an Intermediate Certificate in Family History Skills & Strategies from Pharos Tutors in England. I'm looking forward to diving further into my family and helping out friends and colleagues."

STEWARPLY PURSUIT

Trevor Toy, '06 BSc(Pharm), wrote in to share what he's been up to since his time at the U of A: "I have accumulated experience in clinical pharmacy and infectious diseases, including earning a master of science in control of infectious diseases in the U.K. I supported a large tuberculosis project with Médecins Sans Frontières in Uzbekistan and then joined the International Vaccine Institute, where I led implementation of a multinational antimicrobial resistance surveillance network and supported major studies on typhoid and cholera across Africa and Asia. Currently, I am a clinical pharmacist at Alberta Children's Hospital, working with hospital pediatricians and infectious disease specialists leading antimicrobial stewardship initiatives."

ADVENTURE IS OUT THERE

Mankirat Sarai, '24 PharmD, enjoyed her experiential learning placement at the Edmonton Remand Centre so much that she returned to work there after graduation in 2024. Since then, she has transitioned to hospital pharmacy at Edmonton's Grey Nuns Community Hospital — first in the dispensary and now as a clinical pharmacist in family and general internal medicine. Sarai is also a lab facilitator for the Faculty of Pharmacy and Pharmaceutical Sciences' Practice Skills Lab, a Connect Care Downtime captain for the Grey Nuns' pharmacy department and a collaborator on an Alberta Health Services project to help orient students before they begin hospital-based experiential learning placements.

Her advice? "Always keep searching for opportunities to keep yourself engaged, busy, learning and growing," she says. "You never know what adventure or experience is waiting for you until you put yourself out there. It can be so scary not knowing what you are getting yourself into, but I think it's scarier staying in one place just because it feels familiar."

BY THE NUMBERS

OUR COMMUNITY
AT A GLANCE

Learn more about the Faculty of Pharmacy and Pharmaceutical Sciences at uab.ca/pharmacy

Better Together

Since 1914, the Faculty of Pharmacy and Pharmaceutical Sciences has been at the heart of health care in Alberta and beyond. Our vibrant community of researchers, educators, preceptors, alumni and future pharmacists is dedicated to an equitable and patient-first approach. Together, we're advancing a healthier world for all.

6,429

LIVING ALUMNI

PHILANTHROPIC SUPPORT:

\$942,486

Raised April 1, 2025 - March 31, 2026

572

PRECEPTORS

68

STAFF

Including faculty members, teaching staff, administrators, support staff, research associates and more.

539

Doctor of Pharmacy students

50

Graduate students

10

Post-doctoral scholars

78

PharmD for Practicing Pharmacists students

38

Certificate to Canadian Pharmacy Practice students

"As a pharmacist, you have an opportunity to make a significant and immediate impact in a patient's life and on their health. I've always had a desire to support people, particularly vulnerable and marginalized individuals. That's always been a passion of mine."

Gauhar Ali, '26 PharmD, recent recipient of the Canadian Pharmacists Association Centennial Leadership Award

According to the 2025 QS Rankings by Subject, the Faculty of Pharmacy and Pharmaceutical Sciences is ranked

42ND

INTERNATIONALLY

4TH

IN CANADA

Statistics reflect the 2025 calendar year

Want to re-connect?

You can become a class organizer or plan a reunion! Learn more by emailing org@ualberta.ca

“Recruitment is a long-term process, but the eventual goal is to train more pharmacists specifically from rural areas in Alberta in order to increase access to pharmacists in rural Alberta.”

Sherif Mahmoud, ‘10 PhD, associate professor and associate dean, academic.

CLASS OF 1975

50 Years of Pharmacy

The Class of ‘75 Travel Award opens doors for students on rural placements

FIFTY YEARS AFTER CONVOCATION, the pharmacy Class of 1975 is still shaping the profession they love. Their Class of ‘75 Travel Award eases the costs of rural placements so future pharmacists can say “yes” to opportunities that might otherwise be out of reach.

For **Litany Bloomfield**, ‘25 PharmD, the support arrived at exactly the right time.

“Our whole fourth year was placements,” she says. “Every two months, you’re moving somewhere new, finding a place to stay, paying for travel, all while getting ready for board exams. The award made me feel supported during one of the most stressful years of my life.”

Bloomfield completed three non-urban rotations before returning to her hometown of Medicine Hat, Alta., to begin her career in community practice. She says the award gave her the freedom to choose placements that reflected where she has always felt at home.

Those kinds of experiences



Members of the Pharmacy Class of 1975 gather at their 50th anniversary reunion, celebrating a shared legacy of giving.

are central to the faculty’s vision, says Ann Thompson, director of experiential education and clinical professor in pharmacy and pharmaceutical sciences.

“In some communities, pharmacists are a very consistent point of care,” Thompson says. “Students see how deep those patient–pharmacist relationships can be, and they often feel part of the team quickly. The challenge is that going away for two months comes with real costs.”

For **Deb van Haaften**, ‘75 BSc(Pharm), those realities were top of mind when her class created the award at their 25th reunion. Now semi-retired after a wide-ranging career, and having precepted many students, she has a clear perspective on how far pharmacy education has come.

“When we graduated, we had

96 hours of practicum and then were turned loose,” she recalls with a laugh. “Today’s students get hundreds of hours in different practice settings.”

Van Haaften and her classmates felt that a class bursary designed to offset practicum costs was a good way to support students. Ten students have already received the Class of ‘75 Travel Award, with many, like Bloomfield, choosing multiple rural placements.

“We all believed in these hands-on learning opportunities, especially in rural settings,” Van Haaften says. “Not everyone can give a million dollars, but if 50 people each give a hundred dollars, suddenly you’ve made something meaningful happen. That’s what we wanted future classes to see — the importance of giving back together.”

—ERIK EINSIEDEL

PHOTO: TIM SHOPIK

PHOTO SUPPLIED

RURAL PATHWAYS

‘I will be an advocate for people’

A serious health scare led Indigenous pharmacy student to her passion for rural health care

Pharmacy student Raegan Abrey’s sense of empathy for her patients is more than part of the job she’s training for. It comes from hard-won experience with a health scare of her own.

At 18 years old, Abrey was studying science at Concordia University in Edmonton, drawn north from her hometown of Coaldale, Alta., with a basketball scholarship. In the spring of 2019, she caught a cold she just couldn’t shake.

One day, her vision was blurry and her speech was slurred. She could barely eat or walk. Abrey went to the emergency department, but the doctors sent her home. The next day, her mother flew in to take her back to the hospital.

This time, Abrey was admitted and eventually diagnosed with Guillain-Barré syndrome, a rare neurological disorder that can lead to paralysis. One or two people in every 100,000 develop the syndrome each year, with symptoms that can last anywhere from weeks to months, sometimes causing permanent damage.

The illness brought Abrey’s university studies and sports to a halt. She went home to her parents’ place to recover. In September 2020, she was offered a job as an assistant at the

Coaldale pharmacy.

“I just fell in love with what pharmacists do,” Abrey says.

In the fall of 2025, Abrey, a member of the Otipemisiwak Métis Nation, was admitted as one of three Indigenous pharmacy students at the U of A.

Seven per cent of Albertans are Indigenous and nineteen per cent live in small towns or rural areas. The faculty aims to reflect that diversity in its student population, says Sherif Mahmoud, associate professor and associate dean, academic. That will go a long way toward solving the rural health-care challenges in Alberta, he says.

Abrey, a co-founder of the U of A’s Indigenous Pharmacy Students Club, is part of the first cohort in the new effort to attract Indigenous and rural learners. Last year, the number of rural applicants doubled, filling all 10 designated seats for rural students. And there are already several Indigenous applicants for next year.

The rural and Indigenous focuses are included in the curriculum too. All students take the U of A’s Indigenous Canada course, and 50 per cent of the acute care placements are in rural hospitals, which are supported by



Raegan Abrey

various bursaries.

Today, Abrey has fully recovered and is back to her active lifestyle. She’s headed to Fort McLeod for her first practical rotation and is determined to live and work near her home community of Coaldale once she graduates — and open her own pharmacy to deliver both rural and Indigenous care.

“I will be an advocate for people,” she says. “And I think the biggest thing is taking everybody’s symptoms seriously.”—GILLIAN RUTHERFORD

“Japan has one of the highest quality health-care systems in the world, supporting one of the oldest, yet healthiest, populations. One of the things I learned was that Japanese community pharmacists often conduct home visits to deliver medications, counsel and assess adherence — an effective model of delivering care that supports their aging population.”

Selina He, ‘22 BSc, a U of A pharmacy student, completed a two-week visit to Japan with three classmates in Spring 2025, hosted by Toho University in Chiba, to learn more about differences in international pharmacy practice.

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