

FORWARD >>



THE UNIVERSITY OF BRITISH COLUMBIA
Faculty of Science

The campaign for UBC

Case for support: Science

UBC: In service to *the future*

For more than 100 years, the University of British Columbia has lifted its gaze to the horizon—steadily focused on the long view, with all its promise and potential. And in that relentless pursuit of possibility, UBC has secured its place on the world stage: a top-ranked research university that today leads the way in climate action and global impact, with a deep commitment to Indigenous reconciliation and a more inclusive and equitable future for all.

From its earliest days UBC has stood in service to the future, educating generations of learners to reach for the greater good. Indeed, our strategic plan—***Shaping UBC's Next Century***—commits us to inspiring people, ideas and actions for a better world. Now, as UBC powers forward in the wake of a global pandemic, the call for progressive, integrated solutions to pressing real-world problems is more clear and urgent than ever.

Will you help us meet the challenge?



"There is no question in my mind the value proposition of UBC is unmatched in this country and that UBC is uniquely positioned to shape the next century in Canada and globally. When I think of the biggest challenges our world faces, it's clear the way forward can be forged here—through research and scholarship, and through our students going out into the world smarter and wiser than we were. What we are doing here together matters on a grand scale."

Benoit-Antoine Bacon
President and Vice-Chancellor
University of British Columbia



Tomorrow, *Together*

A model of diversity and unparalleled international engagement, UBC embodies the university of the future. Our thriving partnerships with donors and alumni ignite the imagination with bold possibilities, transforming knowledge into action and innovation to impact.

In a world weary of manipulation and misinformation, universities are respected guardians of wisdom—curators of diverse histories and creators of new knowledge (including, most recently, life-saving vaccines). With two vibrant campuses in Vancouver and the Okanagan, UBC has earned the trust and respect of the people it serves, from busy urban centres to remote coastal villages. Our brilliant students and loyal alumni are passionate, articulate advocates and ambassadors, ever alert and responsive to humanity's greatest challenges. Now is the moment to harness that energy and collective goodwill to advance audacious goals that benefit the entire planet.

Already UBC ranks first in the world in innovation and industry partnerships; our

discoveries have fueled products, treatment and services in disciplines from food science to forestry, visual arts to opera, and medicine to quantum materials. We are also a global leader in digital technologies and entrepreneurialism—key sectors that will shape how we live and work in the future. Now is the time to imagine what comes next for the teaching, research and discovery capabilities that are the foundation of a brighter future.

How we move forward will be the result of collective action from our connected communities: researchers, donors, students, faculty, staff—and more than 375,000 global alumni. Our strength combined with our communities will enable UBC to lead in possibilities: to discover the unknown, create the unimaginable, and shape a more inclusive society. To that end, UBC's new university-wide campaign aims to double the number of uniquely engaged alumni and reach five million interactions, while raising \$3 billion to secure UBC's place as a changemaker in three key areas:



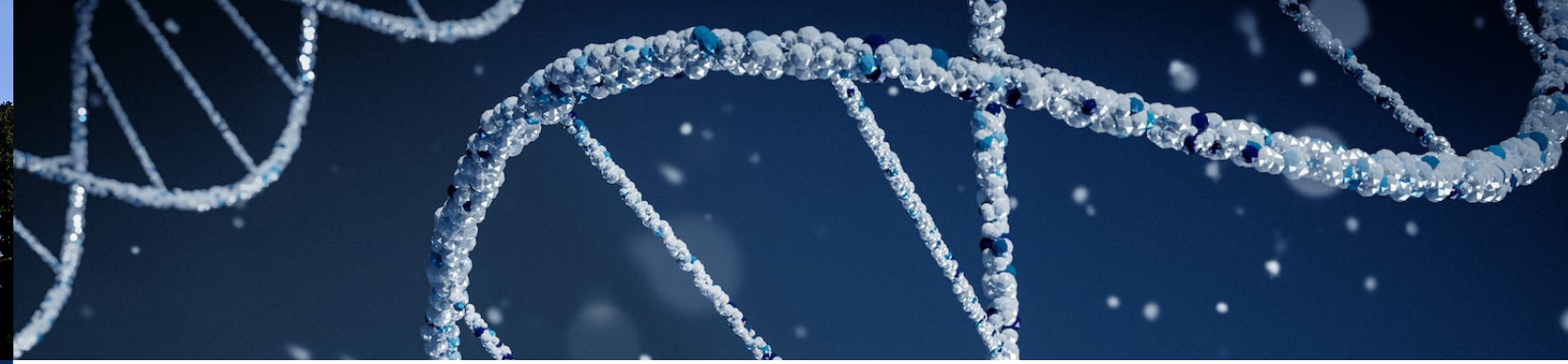
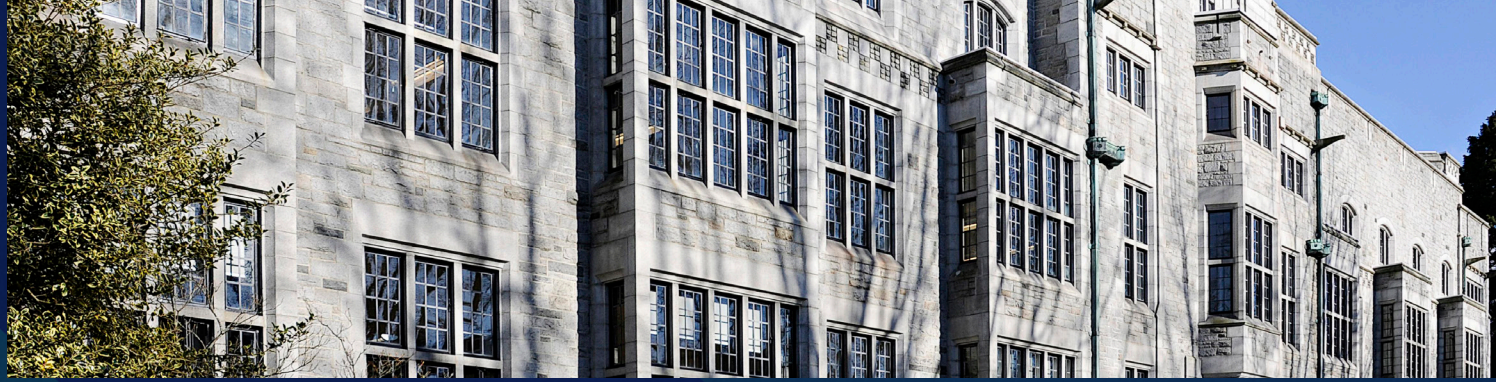
**Advancing
Healthy Lives**



**Creating
Solutions for the Planet**



**Shaping
Thriving Societies**



Faculty of Science

A legacy of discovery and innovation

With more than 10,000 degrees conferred since 1919, the Faculty of Science has built an enduring legacy defined by research and teaching excellence. As environmental and societal challenges become more complex and their effects more profound, building Canada's strength in collaborative, foundational research is more vital than ever.

Our faculty, researchers, and students have expanded our understanding of the world through rigorous research. We have made important strides in the environmental, biological, computer, and data sciences, and quantum matter and materials. We are the top-ranked science faculty in Canada and top five internationally for ecological research in particular, thanks to our strengths in areas such as biodiversity conservation. Our expertise also extends beyond campus, with faculty heading response efforts to global crises like SARS and COVID-19. Over the last century, UBC Science has laid the foundation for vital research that will solve the current challenges threatening our future.

We have also invested considerably to raise our curriculum and teaching to the same level of quality as our research. Under the leadership of Nobel Laureate Carl Wieman, we reinvented undergraduate science education and transformed more than 200 courses to enhance student learning and development. This crucial initiative has propelled UBC Science to the forefront of STEM education in North America.

Today, UBC Science offers more than 20 academic programs, receives \$128 million in research funding annually, and counts several distinguished scientists (including Nobel Laureates and Canada Research Chairs) as faculty members. Our proud history of discovery and innovation has positioned the university as a leading institution for scientific research and education.

But our journey is far from over. With your generosity, we will continue to work toward a better world and a more hopeful future.

Our historic innovations

- **1993: Michael Smith wins the Nobel Prize** in 1993 for discovering site-directed mutagenesis, a groundbreaking technique that advanced diagnostics and new treatments for genetic diseases.
- **2000: UBC commercializes Visudyne** to treat macular degeneration. The drug has saved the vision of 500,000 people.
- **2016: The Stewart Blusson Quantum Matter Institute opens** in 2016 and quickly gains world recognition for pioneering work on quantum materials.
- **2018: Gary Hinshaw and NASA's WMAP team wins the Breakthrough Prize in Fundamental Physics** for their work mapping the early universe. Their research established the Standard Model of cosmology.
- **2018: Stephen Withers and his team discover a new group of gut enzymes** in 2018, accelerating work on creating universal blood-type organs for transplants.
- **2020: Amanda Vincent becomes the first marine conservationist to win the Indianapolis Prize** for her work protecting seahorses. She brought worldwide attention to the seahorse's role as an indicator species for ocean health and current threats to their ecosystems.
- **2020: Claire Kremen receives the Volvo Environment Prize** for her research on diversified farming systems and how they can feed communities while still protecting the planet's biodiversity.
- **2023: Dolph Schluter is awarded the Crafoord Prize in Biosciences** by the Royal Swedish Academy of Sciences and the Crafoord Foundation for his research into the role of natural science in adaptive radiation and the origin of species.



Improving our world through science

Faced with the escalating effects of climate change, resource depletion, social injustice, and a disturbing rise in public distrust of science, we need solutions—fast. Through research, education, and engagement, UBC Science is committed to tackling the world’s most urgent crises.

To keep pace with increasingly complex problems we will build on past successes while broadening our methods. Unrivalled in our disciplinary strengths, we will expand interdisciplinary perspectives in our research. We will focus on wellbeing and personal growth for student success to complement our leading pedagogical practices. And by fostering better external relationships, we will help inform how society responds to the challenges at hand.

In addition to our past accomplishments, our current circumstances also require us to be more than just knowledge-holders. To truly improve our world, we need to be experts and leaders who center people and community at the core of what we do.

Our dedicated donor community has always believed in our ability to drive innovation and progress. Your support will ensure that UBC Science continues to play a vital role in shaping our planet’s future.



Our goals

- Prioritize research in areas such as environmental science and quantum materials to advance fundamental science and develop solutions for global issues.
- Further incorporate new approaches such as inclusive education and holistic student development to prepare new generations of resilient scientific leaders.
- Forge stronger partnerships with Indigenous communities, government, and the larger public to better connect our academic pursuits with the world at large.

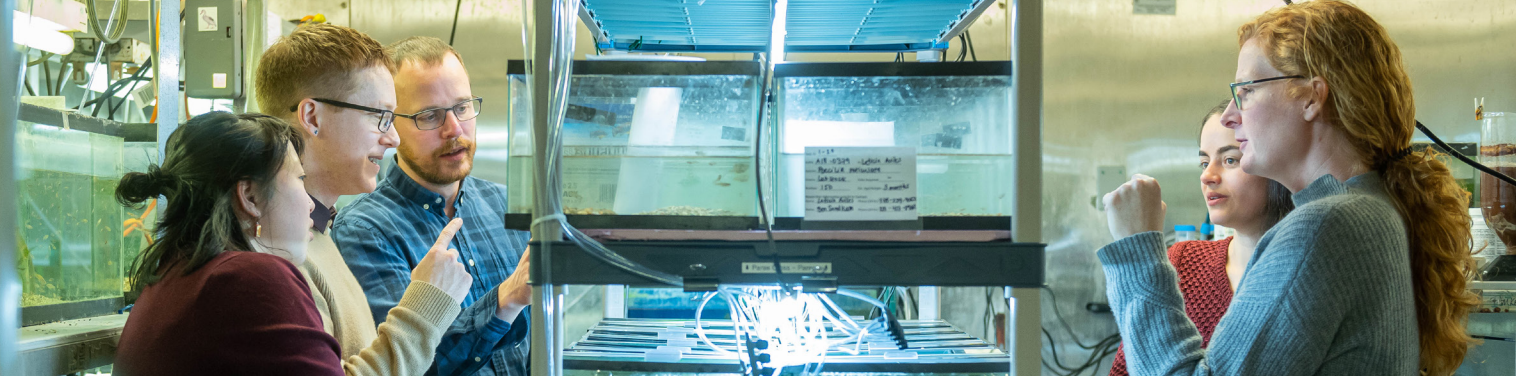


“UBC Science is shaping the future. Across a broad range of disciplines our researchers and students are committed to collaborative discovery and innovation, developing solutions to the increasingly complex challenges facing our planet. With your support, we have the power to improve lives and transform the world.”

Dr. Mark MacLachlan
Dean, Faculty of Science
University of British Columbia

UBC Science scholars conduct top-tier research in the life, physical, earth and computational sciences. Their discoveries help drive insights into areas including biodiversity, sustainability, human health, nanoscience and new materials, probability, artificial intelligence, and exoplanets.





Creating Solutions for the Planet

Food and forest, sea and sky: sustainability touches every aspect of our living world and impacts environmental, social, and economic health around the globe. Creating solutions for the future of our planet is embedded in every aspect of UBC life—from research and teaching to campus operations and community outreach.

With a proven track record in discovery, innovation, and application, UBC Science is home to the experts and leaders who can advance the knowledge necessary to effectively address global issues. By prioritizing research in areas such as biodiversity sustainability, environmental science, quantum materials, artificial intelligence, and advanced modelling, our faculty and students will contribute to some of the most important movements of our time, including reversing climate change, developing high-performance technologies, and pandemic preparedness. From directly tackling urgent ecological crises to expanding our knowledge of the world, your gift will ultimately support important research being conducted in UBC Science.

Priority *projects*

Precision Cancer Genomic Medicine: Improving cancer treatment and health outcomes

Every person's cancer and response to treatment are unique. But treatment methods are generalized, based on what has been previously given to other patients with the same type of cancer. Although this works for some, it does not work for all, particularly those diagnosed with late-stage, inoperable cancers. Your donation will help world-renowned innovator in genomic science Dr. Marco Marra and his team develop a robust, cost-effective, and timely genomic analysis program that will enable the identification of more effective, personalized treatment strategies for cancer patients across Canada, improving outcomes for them and their families.

President's Academic Excellence Chair in Pacific Salmon Science

The President's Academic Excellence Chair in Pacific Salmon Science will be the cornerstone of the Centre for Salmon at UBC. They will drive the leading-edge research necessary for solving the wild Pacific Salmon crisis, train students to be future salmon science experts, bring together community partners to help shape policy and ecosystem management, and initiate outreach and public education that inspires greater concern and mobilization. Donor support will fund this important academic position, which will be a catalyst for successful Pacific salmon conservation that in turn can serve as a model for other animal conservation efforts.



UBC Botanical Garden – Garden Room: Promoting enthusiasm for a biodiverse world

Hands-on, Founded in 1916, UBC Botanical Garden has grown with the university and is now home to approximately 30,000 plants from different temperate regions around the world. The Garden's specimens represent plants found in British Columbia, eastern North America, Asia, and alpine areas, making it a valuable resource for research and teaching. This robust—and beautiful—collection also offers community members a unique opportunity to connect with nature and appreciate the importance of a biodiverse world. To enhance the visitor experience, the Garden will install a new Garden Room next to the Shop in the Garden, which will host special events, workshops, accessories and plants. Your donation will support the installation of a Garden Room (designed by BC Greenhouse and donated by an anonymous donor) and a shade house, which will protect plants from the weather. These improvements will establish a new space for community engagement, education, and outreach that inspires our community to understand and prioritize plant biodiversity.

Revitalizing UBC Chemistry Teaching and Research Facilities

Built in 1925, the Heritage Chemistry Building is an enduring symbol of the university's humble beginnings. Today, the Department of Chemistry, which is one of the top chemistry departments in North America, is housed in five buildings (or blocks) in the centre of the Point Grey campus. The Heritage Building was renovated in 2008, but now other buildings are in dire need of replacement. Your donation will support UBC's most ambitious construction project to date, replacing three of the existing chemistry building blocks with new, state-of-the-art facilities. The new modern facilities will transform curriculum and pedagogy, advance student development in the classroom and the lab, attract the brightest chemists from around the world, and encourage industry collaborations. From the first-ever awarded graduate degree to incredible breakthroughs, Chemistry has been an important part of the university's long history. With new facilities, the department will continue to play a role in UBC's future by accelerating research in crucial areas such as clean energy technologies and sustainable products.

UBC Observatories Project: Enhancing UBC's study of our vast universe

The cosmos holds many secrets still waiting to be uncovered, and now two new modern telescopes will expand the university's ability to observe and investigate astronomical phenomena. Through a naming opportunity, your donation will support two university telescopes: one atop the Hebb building at the heart of our Vancouver campus, and another in the Andes Mountains of Chile, which will be remotely operated from the university. The Vancouver telescope will be a community hub for hands-on astronomy education, providing training for students and opportunities for public education. The Chile telescope will be the first in the Southern Hemisphere entirely owned by a Canadian institution, allowing our faculty and students unrestricted access for research and teaching, as well as elevating outreach programming at the Vancouver campus. Outer space offers infinite possibilities for understanding our planet and imagining our future, and the Vancouver and Chile observatories will substantially enhance UBC Science's position as a leader in astronomical research.



Shaping *Thriving* Societies

At UBC, our commitment to resilient societies runs deep: we have a special relationship with the people of the Musqueam, Squamish, Tsleil-Waututh, and Syilx Okanagan nations, on whose unceded lands our campuses reside. We believe a just and thriving society is grounded in compassion and empathy, strengthened by diversity and inclusion, and fueled by creativity and community outreach.

The world is in crisis, and everyone must play a role in securing our future. UBC Science is committed to providing our students and community members access to learning opportunities that will help them reach their potential and contribute to the world at large. Thriving, resilient societies are equipped with the knowledge, skills, and experience necessary to tackle today's critical questions. From internships to campus attractions and community programs, your donation will support the diverse ways UBC Science is empowering people to be responsible stewards of the planet.

Priority *projects*

Science 101: Transforming lives through science education

A science education can change lives—just ask the graduates of our Science 101 program. Science 101 is a free four-month, introductory science course offered to disenfranchised residents of Vancouver's Downtown Eastside and other inner-city communities. Science 101 students have faced different challenges in their lives, but they all share a drive to learn more about our planet. Through lectures led by UBC faculty and graduate students, participants learn the fundamentals of subjects like physics and astronomy, go on field trips, and participate in a capstone research project. The program culminates in a graduation ceremony, oftentimes the first-ever for most participants. Inspired by the experience and their new community, many Science 101 alumni formally pursue further education, enter job training, and even volunteer with the program. Your donations will ensure Science 101's future and bring the transformative power of science to more people.

Science Undergraduate Research Experience (SURE): Inspiring undergraduate students with valuable research experience

Research experience brings learning to life, translates theory to the working world, builds confidence, develops supportive relationships with mentors, and helps students make the leap from the classroom to a professional setting. The SURE program helps create hands-on research opportunities for undergraduate students across all nine UBC Science departments. Students may work in laboratories, on a boat, in the forest, or in any other context where scientific research is conducted. Your donation will help more science undergraduate students not only gain valuable research experience but also realize what they can accomplish as future innovators.



BRITE (Biodiversity Research: Integrative Training and Education) Internship Program: Preparing the next generation of biodiversity leaders and experts

As extinction rates continue to climb due to climate change and human impact, protecting the planet's biodiversity is paramount. We need leaders who can identify actionable, scientifically informed solutions. The BRITE Internship Program offers graduate students paid internships where they can lend their expertise to agencies committed to biodiversity conservation, especially non-profits. BRITE interns gain valuable hands-on experience by applying their scientific training to different projects, while agencies, which often lack in-house capacity, benefit from the knowledge of talented young scientists. Projects range from databasing species at risk in Atlantic Canada, monitoring and modelling invasive pests affecting the Okanagan's fruit industry, and guiding efforts to conserve New Zealand's endemic breeding falcons. Your donation will support more internships where the next generation of biodiversity experts and leaders can effect the most change to help preserve our planet's unique species and ecosystems.

Biology Undergraduate Diversity in Research (BUDR) Program: Championing diversity and representation in the biological sciences

By bringing new perspectives, diversity and representation can enhance scientific research by broadening a project's scope and impact and accelerating a research group's ability to solve complex problems. But students from disenfranchised backgrounds (Indigenous, ethnic minorities, 2SLGBTQIA+, lower income) are often deterred from pursuing science careers due to financial and cultural barriers. This has led to chronic underrepresentation in the biological sciences in particular. The BUDR Program aims to level the playing field for minority students through mentorship and 'micro-experiences'—short-term paid research positions). Mentors will help students navigate core development areas, including applying to graduate school and grants and scholarships, and students will obtain the valuable hands-on research experience that is key to their academic career success. Your donation will help BUDR expand to accommodate more students and micro-experience placements, and ultimately foster a more diverse future for biological research at UBC.





Partners in purpose: UBC and you

Science is needed now more than ever, not just for the advancement of knowledge but also for the benefit of our planet and society. The problems we are facing today are dire, but the solutions are within reach. It will take a collaborative effort to see them to fruition.

Will you help us improve our world?

Our partners are the catalyst for all that is possible. What happens in the next 10 years will have a decisive impact on the next 100. With the generous support of our loyal donors, community friends and alumni family, UBC will help resolve some of the greatest challenges of our time.

We hope you'll join us on this journey.

FORWARD



THE UNIVERSITY OF BRITISH COLUMBIA

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