THE PRESIDENT’S REPORT

2017-2018

STATE OF THE UNIVERSITY

UNIVERSITY OF WATERLOO
THE LINES WE CROSS ARE THE ONES THAT DEFINE US
There’s a story about the University of Waterloo’s first president during the early years of campus construction that still inspires me today.

Gerald Hagey was sitting on the veranda of the old Schweitzer farmhouse, looking out onto the chaos of construction, when he began to doubt whether he would have had the courage to establish a new university if he had known what was involved.

After 60 years on this remarkable journey, I think we can all be grateful for the persistence of our founders as they pursued their radical vision for a new kind of university. As I envision the future and reflect on the doubts of our founders, I am reminded that we are once again being called to step outside of our comfort zone.

Today, we recognize that our country and the world again need radical changes in post-secondary education to keep pace with the complex global challenges we all face.

I’m confident we’ll prevail because, after all, solving problems is at the heart of our culture. In fact, I believe the University of Waterloo is uniquely positioned to address the great challenges of the day because, like so many important innovations, it was established to solve a complex problem.

When Canada had a shortage of highly skilled engineers in the 1950s, Waterloo’s founders took a risk and established a new kind of university that connected academia and industry to help solve that problem.

The Waterloo model was greeted with controversy and criticism from some quarters. Yet 60 years later, our co-operative education program is a beacon for universities that strive to balance academic independence with constructive partnerships. Waterloo has achieved this while remaining true to our core mission of being a university committed to excellence in education, research and service.

The Schweitzer farmhouse in 1958 during the early years of campus construction.

Photo courtesy of Special Collections and Archives, University of Waterloo
We solve problems with an imagination grounded in the real world — and we don’t scare easily.

Back then, we were an institution attuned to the needs of a nation. Today, we look beyond borders to realize our central mission: To be recognized as one of the world’s top innovation universities.

Hagey couldn’t have known that day on the veranda that the problem he was hoping to solve for Canada would create a home for generations of innovators. Walk around our campus and you’ll meet a Waterloo entrepreneur who is developing an artificial human kidney and researchers building hip joints with a 3D-printer. There are scientists at the forefront of quantum computing and others who are using artificial intelligence to help doctors detect cancer and to build autonomous cars. There are political scientists discovering the factors behind the radicalization of our youth and health economists finding ways to save lives in the developing world with small investments.

As every university stakes its claim to innovation, we’re going deeper by designing new experiences for students that force them to look at the heart of innovation and ask: What are the really important problems of our day? Why are they important?

We will embrace new teaching models while remaining focused on student-centred learning because we know from Waterloo’s history that understanding how people actually learn can transform not only academia but society. The unique Waterloo culture has allowed us in 60 years to become more than the sum of our individual dreams.

Looking forward, we know the global challenges of today will require even greater co-operation among partners and disciplines. We need to transition from disciplinary entrenchment to embrace complexity. We will shape the next 60 years with a deep awareness of Waterloo’s unique culture: We take risks. We are committed to diversity. We are international. We don’t imitate. Our graduates are not only job seekers, they are job creators and leaders. Waterloo will remain deeply curious and innovative.

We’ve all had our moments on the veranda when the seeds of doubt threaten our natural optimism. But as we look at all that has been accomplished, we can embrace our shared future and cross the lines that need to be crossed with confidence, knowing they may one day define us.

Feridun Hamdullahpur
President and Vice-Chancellor
SHAPING OUR FUTURE: FOUR KEY INITIATIVES

As we envision our future, we want to ensure that all members of the University of Waterloo community today, and in generations to come, have the opportunity to realize their fullest potential.

So, we will create new modes of engagement with our campus, others, and our environment, with a particular focus on four initiatives:

- Equity and inclusion
- Indigenization
- Student mental health
- Sustainability

Although we have made strides in creating a more equitable and inclusive environment, regardless of gender, we know there is still work to do. Waterloo will continue to work for gender equality in the workplace and toward a campus free from harassment and gender-based violence. As a global leader in science, technology, engineering and mathematics (STEM) education, we will also continue our outreach to young women and girls who want to fulfill their dreams in these disciplines.

When we understand that only a small percentage of Indigenous people get a university degree in Canada, we know that the time for complacency is over. We will look squarely at the reality of our nation’s history, and help to transform the future of Indigenous people in Canada through education.

Outreach and support for students in our community living with mental illness also needs to be a top priority. There is the devastation of suicide, but we must also remember the losses for those who struggle daily with mental illness. The Waterloo promise must include the pursuit of joy as well as an education.

And finally, sustainability. The decisions we make today on our campus will have a profound impact on generations to come. We will need to channel all the ingenuity that Waterloo is known for to preserve and protect our environment, the foundation of all that we hold dear.
#CountMeIn social media campaign supports the United Nations’ HeForShe movement for gender equality.

We had a student on our campus who grew up in a small village in India, in a region where only half of the girls and women are literate and where many of her schoolmates were married as teenagers. But Pampa Dey dreamed of a different path as she worked in her family’s sweet shop, balancing her time between homework and helping customers.

Recently, Dey graduated from the University of Waterloo with a PhD in engineering.

When we consider the odds that Dey defied to achieve this goal, we can only shake our heads in amazement and be humbled by her tenacity, spirit and intelligence. We are also moved by the knowledge that the dreams of millions of girls are eroded by forces beyond their control.
At the University of Waterloo, we believe that talent comes from every corner of the world, from every culture, race, religion and gender.

Diversity is what makes Canada strong. It’s also what makes this University strong. As Canada renews its commitment to diversity and inclusiveness, we are eager to do the same so that we can foster and develop all the talent potential that surrounds us.

Our University is making enormous strides. We have developed a new position — Associate Vice-President, Human Rights, Equity and Inclusion — held by Diana Parry, who is overseeing activities of our Equity Office, Conflict Management and Human Rights and Sexual Violence Response.

Our Equity Office is a central source of expertise on equity, diversity and inclusion matters and is leading our efforts to proactively promote equity and diversity.

The goal is to make our Waterloo campus a genuinely welcoming and safe place for everyone, and a place where people from around the world and from every group in our society will want to be.

On the gender equity front, the University of Waterloo accepted an invitation in 2015 to participate in the UN Women's HeForShe movement and IMPACT 10x10x10 framework.

As part of this framework to advance gender equity, we committed to:

- Boosting female student participation in science, technology, engineering and math (STEM) outreach experiences and activities in order to build a pipeline for future female leaders in traditionally male-dominated disciplines;
- Enhancing female faculty representation on our campus;
- Attracting and advancing female leaders into senior academic and administrative University positions.

We are making progress. One goal was to boost female faculty representation to 30 per cent of full-time regular faculty and we have nearly reached that target now. In the future, we would like to continue to improve on that gender balance.

We are also aiming to boost the number of women in leadership positions to 29 per cent. We are closing in on that goal as well, with 27.5 per cent of our leadership positions now occupied by women. Meanwhile, participation of female students in our STEM outreach programs is now at 35 per cent, surpassing our goal of 33 per cent.

A key aspect of equity for all groups is making sure we have an environment that supports and rewards everyone fairly, equitably and without harassment.

Discrimination and harassment are counter-productive to our goal of nurturing and developing the talents of all of our students, faculty and staff.

To that end, we have set up our Conflict Management and Human Rights Office to act as a focal point and resource to all members of the University community regarding matters of harassment, discrimination, and other general forms of conflict. Diana Parry is also overseeing activities in this office.

Promoting diversity and equity will continue to be a major initiative going forward. It is fundamental to our success.

Today, Pampa Dey is a post-doctoral student in our Faculty of Engineering. Her passion for structural engineering allows her to apply the intricacies of mathematics and physics to work that makes our world a better, safer place.

As we forge ahead, we should remember Dey and how she provides us all with a reminder of the potential of every human being, and our obligations to ensure everyone is welcome at the University of Waterloo.
When Roberta Jamieson delivered a lecture on our campus to help celebrate our 60th Anniversary, she reminded us that there was a time when Indigenous people had to sign away their rights as “Indians” if they wanted to obtain a post-secondary degree in Canada.

Then Jamieson, an activist who was the first Indigenous lawyer in Canada, called upon the University of Waterloo community to create a shared future by design, using our reputation for innovation to build solutions that promote reconciliation.

The history of Indigenous education in Canada is a tragic one. Jamieson reminded us that Indigenous children were removed from their homes to schools off-reserve, because their parents were deemed “savages.”

Jamieson says she dreams of education that includes Indigenous history, languages, values and science. And she wants to reaffirm Indigenous identity and “demonstrate that we have a future in Canada, and that we’re prepared to make it happen.”

The Indigenization of universities and colleges became a key focus of discussion on many campuses after the release of the final report of the Truth and Reconciliation Commission.
The commissioner called on post-secondary institutions to play a leading role in supporting Indigenous languages and culture as part of a broader effort to heal past wrongs.

We're moving forward with our trademark pragmatism, first acknowledging that the University of Waterloo is located on the traditional territory of the Neutral, Anishinaabe and Haudenosaunee people.

The Waterloo Aboriginal Education Centre, based at St. Paul’s University College, facilitates the sharing of Indigenous knowledge and provides culturally relevant information and support services for all members of the University of Waterloo community, including Indigenous and non-Indigenous students, staff, and faculty. It also works in partnership with other Waterloo Region Indigenous community services and organizations.

We are committed to improving diversity at this University by increasing the enrolment and participation of Indigenous peoples.

We have set up an Advisory Committee to help us develop the Indigenization Strategy at Waterloo and further the initiatives that have begun in this area. The committee will engage with the entire University of Waterloo community, as well as partners within the wider community. It will particularly look to Indigenous scholars, students, staff, community representatives, and leaders for insight and guidance.

The Advisory Committee looks to advance understanding and discussion, and develop recommendations, including:

› Identifying strategies that bring attention within the University community to the contributions, histories, contemporary issues, and knowledge and ways of knowing of Indigenous peoples, and recommending areas where introducing Indigenous content, courses, and programs would be appropriate and beneficial to the University community;

› Increasing opportunities for collaborative community partnerships for research, teaching, and learning on Indigenous topics;

› Recruiting Indigenous scholars and students;

› Ensuring resources are in place to support Indigenous students, faculty, and staff needs;

› Building welcoming spaces and facilities for Indigenous students, faculty, staff, and guests, including facilitating meetings and hosting events on campus;

› Inviting Indigenous alumni to be involved in recruitment activities and initiatives to foster student success;

› Advising the University’s senior leadership on any other matters related to the development of an Indigenization Strategy.

The Indigenization Strategy will be a major initiative for this University going forward. With it, we hope to not only meet the recommendations set out by the Truth and Reconciliation Commission, but to live the spirit of those recommendations as well.

The Waterloo Aboriginal Education Centre and City of Waterloo partnered to host a Sunrise Ceremony on National Aboriginal Day. After the ceremony, Indigenous and non-Indigenous community members gathered for a traditional round dance celebration.
We don’t want our students to simply survive here, we want them to live with vitality and hope.

The University of Waterloo marks Mental Health Wellness Day every year in October with a campaign by staff, faculty and students to show support for student mental health by wearing orange T-shirts. The “orange wave” is designed to end the stigma around mental illness and get students talking about their mental health.
As educators, parents and anyone with memories of difficult times in our youth, we are concerned when we hear of the lost promise and potential of young people struggling with mental illness. When one of our students dies by suicide, we are devastated.

We need to do more.

The University has convened a President's Advisory Committee on Student Mental Health in response to the heartfelt concerns from our community that we improve supports and outreach for students with mental health issues. Although we are not alone among universities in Canada in confronting this issue, at Waterloo we want to tackle the issue head-on and develop a co-ordinated approach to supporting our students.

The advisory committee is tasked with collecting information on student mental health, both within the University's student body and the larger societal context. It will review the data and information that is collected, and provide advice on the status and progress of mental health initiatives across the University. It will examine root causes of student stress, anxiety and depression, and how to mitigate them in a proactive way. It will also examine our counselling services and outreach activities like our peer support program and online mental health training for parents and faculty.

Panels have been set up to look at five areas: student experience, student services, community partners, academic, and mental health experts. The call for panel representatives resulted in a large number of applicants, which shows the passion and awareness for developing and enhancing mental health and wellness services and systems on campus.

Each panel is gathering information on their topic area and providing feedback for the report and recommendations of the advisory committee.

Although death by suicide stops us cold and rightly gets our attention, it is important for us to also address the suffering of those who live every day with depression, anxiety or other symptoms. Our students join our community as young adults who must for the first time manage their own health care and navigate dreams in a tumultuous economy. There are unique financial stresses, exams and concerns about whether they will get a job or be admitted to grad school.

We don't want our students to simply survive here, we want them to live with vitality and hope. So we will open our hearts and minds to what they are experiencing. We will create a community that not only responds to crises but looks to preventing illness and promoting health.

This committee, together with our community, will work to foster an environment where our students feel safe to speak truthfully about their lives, confident in the knowledge that they will receive care and support; assured that nobody needs to struggle alone.
As we observe the historic flooding, unprecedented droughts and early melt of ancient glaciers that scientists had warned us about, we can be proud of the work that Waterloo researchers do every day to move us beyond hope.

A dirt path between the William G. Davis Computer Research Centre and the Mathematics and Computer building is replaced with permeable pavement stones, which help direct rainfall back into the natural ecosystem. The project was a joint partnership between students and Waterloo’s Centre for Pavement and Transportation Technology.
Our researchers are discovering fresh insights about climate change, finding new ways to adapt to our present reality and creating ways to mitigate losses. Their contribution is invaluable but we are also mindful that, as we impact the global conversation, there is work to do at home.

We're proud of one group of students who turned a dirt path on our campus into a beautiful walkway of permeable pavement stones to help absorb water during heavy rains. Another group launched a campus compost program, and our library staff have partnered with custodial staff to improve recycling on campus.

These local initiatives matter. As a large institution, Waterloo's environmental footprint matters. We have a long history of innovation when it comes to the environment and we will need Waterloo ingenuity more than ever as we come to terms with the need for a sustainable future.

The Faculty of Environment was one of the first of its kind in Canada. It has consistently produced high-quality research and graduates needed to address complex environmental issues. Across campus, Waterloo also hosts more than 540 courses that focus on or include sustainability, ensuring graduates from many programs understand the sustainability challenges they will inevitably face in the working world.

Sustainability research is deeply embedded across all six Faculties, with more than 260 faculty members conducting research related to water, energy, climate change, transportation, and ecological systems.

Major hubs of research include the Waterloo Institute for Sustainable Energy, Water Institute, Interdisciplinary Centre on Climate Change, and Waterloo Centre for Automotive Research among others, where faculty and students form interdisciplinary teams to tackle pressing challenges.

New funding for projects in hazardous waste from mines, green vehicles, water management technologies, and climate resilience highlight how Waterloo is enabling policy, governance, and technology solutions that meet the needs of society.

In 2009, executive heads at all Ontario universities made a commitment to develop solutions to sustainability challenges, share knowledge and integrate sustainability into how we operate.

At Waterloo, we are making progress across each of these areas and outlining that progress in an annual sustainability report. Our Green Office program now works with 26 departments reaching hundreds of employees to make small but important changes to reduce waste, conserve energy, and buy more sustainable products.

Students across campus continue to develop initiatives to engage their peers. Waterloo’s Food Services team has shifted our purchasing arrangements to incorporate more Fairtrade certified and locally sourced food. Our custodial teams are collecting better data on our waste management processes, and facilities staff are completing projects to reduce our energy consumption and greenhouse gas emissions.

These are important steps. But we want to go further. This year, Waterloo developed its first Environmental Sustainability Policy to reinforce our commitment and establish a foundation for continued action.

The President’s Advisory Committee on Environmental Sustainability has also developed our first Environmental Sustainability Strategy to identify opportunities and establish directions that further integrate sustainability in our teaching and research, operations, and campus culture.

When we talk about the interdisciplinary research that Waterloo is known for, we can sometimes forget that reaching across the campus, beyond faculty to our students, staff and alumni is the best hope for a sustainable future.

Several years ago, that simple dirt path between the William G. Davis Computer Research Centre and the Mathematics and Computer Building became a pathway of permeable pavement through a partnership between students and Waterloo’s Centre for Pavement and Transportation Technology.

Today it is more than a sustainable pathway. It has become a courtyard where we gather to celebrate. It is also a daily reminder that when we reimagine our environment and seek connection rather than control, we begin to restore the natural balance of our world.
Sixty years ago, the University of Waterloo's founders believed that a university education would be enriched with a balance of work experience and academic study. Co-operative education was a radical notion in the 1950s, but 60 years later we see the profound impact of that foundational belief every day. We see it in the Waterloo student experience, our transformational research, entrepreneurial ecosystem and international connections. The impact lives in the hearts and minds of our students, alumni, faculty and staff. It’s also inspiring to see our good work in the numbers.

93.5% of employers describe their Waterloo co-op students as very good to outstanding

19,000+ work terms with 6,900+ active employers

“WE’RE PROUD TO SUPPORT OUTSTANDING DEANS, FACULTY AND STAFF IN DELIVERING ACADEMIC AND ADMINISTRATIVE EXCELLENCE. WE’RE ALSO PROUD TO BE RANKED AMONG THE TOP TWO CANADIAN UNIVERSITIES FOR GRADUATE EMPLOYABILITY.”

George Dixon, Vice-President, Academic and Provost

#1 IN CANADA FOR EMPLOYER PARTNERSHIPS (and #4 in the world)

QS GRADUATE EMPLOYABILITY RANKINGS 2018

70% of incoming students choose University of Waterloo because of co-op

2015 INCOMING STUDENT SURVEY
Joint international academic partnerships

INTERNATIONAL

18.0% undergrad students
38.5% grad students

“WATERLOO’S REPUTATION ON THE WORLD STAGE CONTINUES TO GROW — AND ALL BECAUSE OUR FACULTY, STUDENTS AND STAFF KEEP PUSHING BEYOND — BEYOND OUR EXPECTATIONS AND BOUNDARIES.”

Sandra Banks, Vice-President, University Relations

INTERNATIONAL

97.8% International student employment rate
87% of those jobs were in Canada or the U.S.

JOBMINE/WATERLOO WORKS

60+ International delegations hosted
(ambassadors, heads of state, university presidents)

3,600+ International student experiences

“WE CONNECT THE UNIVERSITY’S GREATEST AMBASSADORS TO THE INSTITUTION AND TO EACH OTHER AND ARE PROUD TO NOW HAVE 195,000 ALUMNI IN 152 COUNTRIES.”

Joanne Shoveller, Vice-President, Advancement

97.7% CO-OP EMPLOYMENT RATES
consistently above 95%, even with a 2.4% increase in the number of co-op work terms

2016/17

International student experiences

2016/17
“WATERLOO’S RESEARCHERS ARE AMONG THE WORLD’S FINEST, ATTRACTING A RECORD $205 MILLION FROM PUBLIC AND PRIVATE SOURCES IN 2016-2017 TO FUND RESEARCH FOCUSED ON KEY GLOBAL CHALLENGES.”

Charmaine Dean, Vice-President University Research

$205M+

in research funding from public and private partners

65

Canada Research Chairs, including 2 Canada Excellence Research Chairs

30%

research funding from corporate collaborations

89

Waterloo students received NSERC* graduate awards

2016/17

$32.8M direct industry funding

$29.5M government matching funds

2017/18

$205M+

in research funding from public and private partners

2016/17

“WATERLOO CONTINUES TO RESPOND TO THE NEEDS OF STUDENTS, STAFF AND FACULTY BY GROWING IMPORTANT SPACES, PLACES, AMENITIES, AND PRIDE.”

Dennis Huber, Vice-President, Administration and Finance

63,000 sq.ft.

of new/refreshed space for study, social, fitness, dining, collaboration with fall 2018 relaunch of Student Life Centre/Physical Activities Centre

18%

increase in new student study space since 2013

PRESIDENT’S ADVISORY COMMITTEE ON STUDENT MENTAL HEALTH

5 supporting panels:
Academic | Mental Health Experts | Student Services | Student Experience | Community Partners

RICH STUDENT EXPERIENCE
Canada’s Most Innovative University for 26 Consecutive Years

In the top 20 globally in the category of “Top Universities for VC-Backed Entrepreneurs”
and #4 in the category of “Top Universities that Create Unicorns”

16,750+
enrolments in 500+ courses and non-credit events and workshops related to entrepreneurship
(increase in enrolment of 67.6% since 2013/14)

390 University of Waterloo entrepreneurs have raised $7.1B

Velocity is the Largest Free Student Incubator in the World
One-year company survival rate of 89% in 2016 for Velocity startups

1,700+ jobs created by Velocity companies since 2010

100+ Student Leadership Program Workshops in 2016/17 with 468 participants

Learning Services developed 22 projects in conjunction with 40+ faculty/staff to support student learning and development, impacting 4,200 students

2,605 students coached in 2016/17
(a 39% increase over 2015/16)
New peer-review program for junior co-op students

"My goal is to support the campus community’s achievements and enhance our faculty, student and staff experience by protecting health and safety."
Karen Jack, University Secretary
... knowing the lines we cross today are the ones that will define us tomorrow.
It only took us a few decades to become an innovation leader in Canada. Now, we will work to take an even more prominent role on the world stage.

We want to become the premier model of a 21st-century university because, while we don’t have solutions for every global challenge, we understand how innovation happens. The Waterloo culture builds bridges between imagination and industry on a foundation of innovation that matters. It unleashes creativity that gives our researchers freedom to probe the most fundamental questions we have about ourselves and our living world.

We are risk-takers who are not afraid to change the rules to solve the thorniest issues of our day. We have computer scientists finding ways to address mental health issues and an engineering scholar with a graduate degree in philosophy who is building an artificial brain. Our scientists, who are exploring the very nature of matter, have turned the tables by asking if standard artificial intelligence used in industry can fuel fundamental physics research.

Waterloo is uniquely poised to make an impact because the world is moving fast and we are unconstrained by centuries of tradition. We know innovation isn’t linear. People tend to think of singular discoveries plotted on timelines but we know the lines are always intersecting. If we step back, we see the convergence. You can see it in the smartphone in the palm of your hand, containing all the discoveries in electromagnetism and radio waves, sound waves and speakers, liquid crystal displays, software and microchips that have happened over the decades, even centuries.

The challenges of our day require us to cross conventional boundaries, knowing the lines we cross today are the ones that will define us tomorrow.
“The lines on this page depict the sound waves created as I read aloud from Toward a Shared Vision of Our Future. They are the shape of my vision, just one element of our collective future. The laws of physics tell us that the further you are from the source of a sound wave, the lower its intensity. So, we need people on every continent who have been touched by Waterloo to add their voices and amplify what they know of our unique culture. Together, we must raise our voices and apply our talents to the great challenges of the day so that people around the world can hear and benefit from the sound of innovation.”

Feridun Hamdullahpur
President and Vice-Chancellor
WHAT ARE THE REALLY IMPORTANT PROBLEMS OF OUR DAY?
WHY ARE THEY IMPORTANT?