EDUCATION
FOR A COMPLEX WORLD.

Year in review

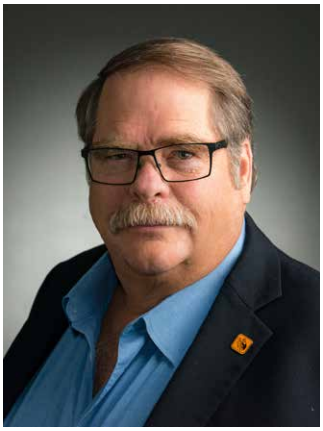
BCIT™

BRITISH COLUMBIA
INSTITUTE OF TECHNOLOGY

EDUCATION
FOR A COMPLEX WORLD.

Year in review

Thriving in a time of change



In 2016, the British Columbia Institute of Technology celebrated a significant year in which nearly 6,850 students graduated, achieving their goals and beginning careers across BC's key economic sectors. Thanks to our passionate and dedicated faculty and staff, we've seen steady overall enrolment and an increase in both Indigenous and international students, ensuring BCIT reflects the diverse world around us.

Also over the last year, new campus infrastructure and training facilities were successfully funded, built, and opened. We hosted global business leaders who shared their ideas and insights with our campus community. We cheered discoveries and advancements made by our applied researchers. And we felt our hearts swell with pride as our students won international awards and achieved impressive heights.

BCIT made a tangible, positive impact throughout our province and around the globe.

As the world navigates business and technological complexities unimagined a decade ago, the organizations that drive our economy are faced with unprecedented change. Industry is striving to attract and retain top talent and keep pace with technical advances and evolving economies. Our Institute's unique education model—developed and delivered in partnership with industry—empowers our students with real-world leadership skills and entrepreneurial resiliency. Ultimately, it allows them to make a real and meaningful contribution to our complex world.

As you read through this report, you'll see why we're so proud of our students, alumni, faculty, and staff, and why BCIT is integral to the economic, social, and environmental prosperity of British Columbia, Canada and, increasingly, the world.

Sincerely,

Kathy Kinloch
President, BCIT

Jack Davidson
Chair, BCIT Board of Governors

Aboriginal Services hosts an annual celebration called Honouring our Leaders. The event honours Indigenous graduates, peer mentors, and alumni in an evening that includes families, a traditional dinner, storytelling, and hand drumming. Aboriginal Services assists Indigenous students and promotes their history, culture, and traditions.

Contents

Cover: BCIT Aerospace Technology Campus

Healthcare students to get a new high-tech home

We ended our fiscal year on a high note with the announcement of the BCIT Health Sciences Centre for Advanced Simulation. The new high-tech building will allow us to better train our students to work in the increasingly complex healthcare sector. The four-storey, 10,355-square-metre building will be one of the largest centres for health simulation training in Canada, unique in its ability to replicate a variety of hospital and laboratory settings. Students will be able to develop their clinical skills as they safely practice realistic scenarios in a controlled environment. The centre will house various School of Health Sciences programs and support interdisciplinary learning.

"We know healthcare technology is evolving rapidly and BCIT is keeping pace with new infrastructure, equipment, and learning and teaching approaches," says BCIT President, Kathy Kinloch. "Our students will learn and acquire hands-on skills that are so acutely in demand in the healthcare sector today."

We are grateful for the provincial government's $66.6-million investment in this project. BCIT is committed to raising the balance of $11.7-million through donor support. Construction of the $78.3-million centre is set to begin the summer of 2018 with completion expected in 2020.

Artist's conceptual rendering of the School of Health Sciences Centre.

The renovated pedestrian walkway and hydro station on Goard Way.

New jolt of funding renews Burnaby Campus

In March 2017, we welcomed partners from both the provincial and federal governments to announce a vital upgrade to our Burnaby Campus. The $46.9-million project will see the replacement of a 60-year old electrical receiving station that powers half the campus, including all our Burnaby-based trades programs.

Its replacement ensures that operations at BCIT can continue uninterrupted by power failures. Smart electrical infrastructure will make what we do now more reliable, and what we're about to do possible. The upgrade will complete the modernization of our campus-wide underground electrical system, paving the way for our ambitious campus development plans that include the new Health Sciences Centre for Advanced Simulation. The project also allows us to replace water mains, storm water drains, gas pipes, and our fibre-optic network. Upgrades will better integrate our building operations with the sustainability research we do at BCIT, cementing our position as a nationally recognized living lab. We'll see improvements above ground too, with the addition of rain gardens and pedestrian-friendly walkways.

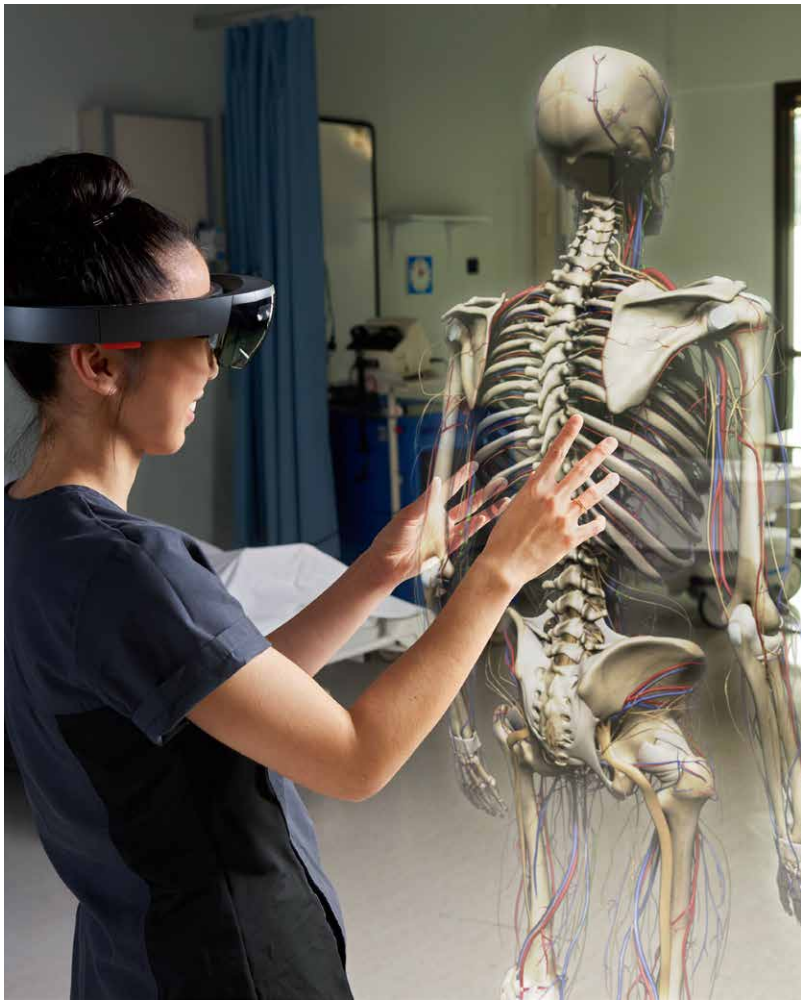
By replacing infrastructure from the past, we can continue to build an Institute of the future.

A virtual hub for interactive technology

At BCIT, we're charting new territory as we embrace virtual and augmented reality (VR/AR). We've stocked our library with Microsoft HoloLenses, mixed-reality glasses that allow students to interact with high-definition holograms. This technology will revolutionize the way we learn, teach, and collaborate.

"The way we teach is changing," said James Rout, Associate VP for Education Support and Innovation. "BCIT is at the forefront of a pedagogical shift. I'm excited about what technologies like the HoloLens will do for education."

In the coming years, students in our Automotive Service Technician program will be able to disassemble and re-assemble a scanned, virtual transmission in augmented reality. Critical Care Nursing students will get to use augmented reality technology to overlay the appearance of serious burns on simulation robots—a two-pronged technical feat that will help them prepare for the real thing.



Healthcare in a virtual world

BCIT has partnered with Humber College on a first-of-its-kind healthcare education tool—a virtual Canadian town. Stillwell is a fictional community that features lifelike medical emergencies. Through video episodes, photos, podcasts, digital stories, blogs, case notes and even a local newspaper, healthcare students follow cases from critical incident to resolution.

The website goes to great lengths to feature interprofessional relationships. Paramedics discuss cases with nurses. Nurses and doctors work together with patients' families. With 32 healthcare programs, BCIT is well-positioned to contribute resources to the Humber-built site. For example, in a case featuring a stroke, the BCIT diagnostic imaging programs—such as medical radiology—can add relevant case documents to the patient file, while the medical laboratory programs would add lab results. As a result, faculty in both schools can now present students with a truly realistic interprofessional perspective of healthcare delivery.

A futuristic way to share Indigenous stories

Since his graduation in 2009, Adrian Duke has put his diploma in Marketing Management (Entrepreneurship option) to good use. Duke is the CEO of a successful company that builds waterslides, as well as a managing partner with another that builds escape rooms. In 2015, Duke was named to the *BC Business* 30 Under 30 list.

With his latest project, Duke brings together two things he's passionate about: Indigenous culture and technology. He's working with the Vancouver Native Housing Society to build an augmented reality app to collect and share Canadian Indigenous stories. It will feature videos, images, audio, and augmented reality—all in the hope of getting people to explore their local history. The app hasn't launched yet, but already Duke has stories coming in from Vancouver to Newfoundland to Nunavut.

Alumna shows her mettle

In the BCIT Metal Fabricator Foundation program, Niki Jenkins learned how to use steel to make things like bridges and ship parts. She also used steel for something that's not in the curriculum—art. Jenkins is an Indigenous artist who uses the skills she learned in the metal shop to create pieces that reflect her culture.

Jenkins studied while working part-time as an Aboriginal child and youth worker. She's also a single mom of two. Her impressive work ethic took her from the Metal Fabricator program directly into Marine Fitter Level 1 training at BCIT. She hopes to become an apprentice while continuing to explore metal as a medium for art.

Training the green builders of the future

The Burnaby Campus has unveiled an impressive facility—the High Performance Building Lab. It's a hands-on learning space that teaches students about the construction of energy-efficient buildings.

"Green building practices are becoming an integral part of the construction processes in BC, and therefore our economy," says Wayne Hand, the Dean of the School of Construction and the Environment.

Students from several programs benefit from this training ground, including the Architectural and Building Technology diploma, Bachelor of Architectural Science, and the Passive House Trades Training course. The lab can also be used for applied research. The new facility was built thanks to a partnership between BCIT, BC Housing, and various industry stakeholders.

Spartan Controls generosity

In honour of the 25 year relationship between BCIT and Spartan Controls, one of our key facilities got a new name this year—The Spartan Controls Centre for Energy Education and Research. The rename also acknowledges the $2.5-million contribution the company made to the BCIT School of Energy.

The facility allows students to work on some of the most advanced energy managment systems available. It boasts the lowest emissions-producing boiler in Western Canada and a turbo generator connected to the BCIT microgrid. It houses five live processes that are managed by an industry-aligned advanced control system. As such, the centre is key to energy education and research at BCIT.

Alumna goes it 'Alone'

BCIT alumna Megan Hanacek showed the world she can survive some of the world's harshest conditions. As a contestant on the survivalist documentary series *Alone*, Megan agreed to spend up to a year in the wilderness of Patagonia, Argentina, equipped with only her wits, limited gear, and cameras to self-document her experience.

History Channel promised this series would plunge Hanacek "into a state of isolation unimaginable in today's hyper-connected, always-on world."

She jumped at the challenge. "I have a strong passion for demonstrating the value in sustainably managing our natural world," she says. "I also have a strong drive to show that women can succeed in natural resource careers."

Only three women were chosen for the show. Hanacek was the only Canadian woman, and the only mother.

Hanacek studied forestry in the BCIT Natural Resources program (1997-1999), now called Forest and Natural Areas Management. "The program really honed my field orientation and technical experience," she says. She used those skills to build a shelter, forage for food, fend off predators, and keep the cold at bay. Although she didn't win, Megan survived 78 days, making it to the season finale.

Stealing the show

BCIT Interior Design students won first and second prize at the Interior Design Educators' Council (IDEC) student competition. IDEC received more than 100 submissions from 40 different programs across North America. BCIT submitted three entries, all of which made it to the finals in Chicago. Competing in the Pacific Western region, they beat out entries from Calgary to California.

This is not the first time BCIT has done well at the prestigious event. Last year, our students brought home first, second, and third prize. We can't wait to see what they do in 2018.

Design recognized

Interior designers work to create inspiring spaces. It is a complex profession—both creative and technical in nature. It takes a specific education to design the built environment. BCIT has long been known as a pre-eminent interior design school. This year, that reputation got the official stamp of approval. After a rigorous vetting process, our Bachelor of Interior Design program was granted official Council for Interior Design Accreditation (CIDA).

It's an accreditation that prospective students look for because it's one employers trust. It is also an important step in the process for Interior Design graduates who are working towards their Registered Interior Design (RID) designation. With this accreditation, BCIT joins other esteemed post-secondaries across Canada, the US, and around the world.

Trading up—from apprentice to CEO

Combining a trade and some business know-how is a smart way to build a strong future. With that in mind, BCIT has launched a new course—From Apprentice to CEO—that shows students how to build and maintain a successful trades business.

"What sets this course apart from most start-your-own-business courses is the strong emphasis on how to set up an operating system for the trades," says Wayne Hand, Dean, School of Construction and the Environment.

Among the relevant skills students learn are invoicing, job tracking, estimating, finances, and safety. They also learn how to do market research and how to implement a marketing plan. The course is part of the existing Coast Capital Savings Entrepreneurship Skills for Trades and Technology Program at BCIT.

Boilermaker apprentice at the Burnaby BCIT Campus.

Our impact measured

Student success

91%

of BCIT diploma and certificate graduates are employed.

95%

of those who complete an apprenticeship at BCIT are employed.

96%

of BCIT degree graduates are employed.

$377M

The forecasted annual gross income for new hires with a BCIT credential.

19%

BCIT graduates will earn a premium of $49 million, or 19% more than the BC system average income (excluding the research universities).

Sources:
2015/16 BCIT Economic Impact Report;
BCIT Institutional Reports, 2016/17;
2016 BC Student Outcomes

BCIT, as an economic entity with about 2,400 employees, generated a net impact of $467 million in 2016, supporting 10,151 on-going jobs. We educate nearly 50,000 students, 1,680 of whom are Indigenous.

International reach

4,000

BCIT welcomed nearly 4,000 international students from over 100 countries in 2016/17.

26%

increase in international enrolment over 2015/16.

32%

of BCIT international students are from China. Others come from India (16%), Brazil (14%), South Korea (7%), and Vietnam (3%).

300

students received BCIT credentials from partner schools in China and South Korea.

Economy

1,000

In 2016, BCIT students, faculty and applied researchers delivered more than 1,000 applied research solutions to industry.

$2.6B

The overall impact of BCIT on the economy is $2.6 billion with a net impact of $2.45 billion. ($807M from operations and current graduates and $1.85B from alumni.)

$6.3M

In 2015, BCIT received $6.3 million in research funding to support applied research.

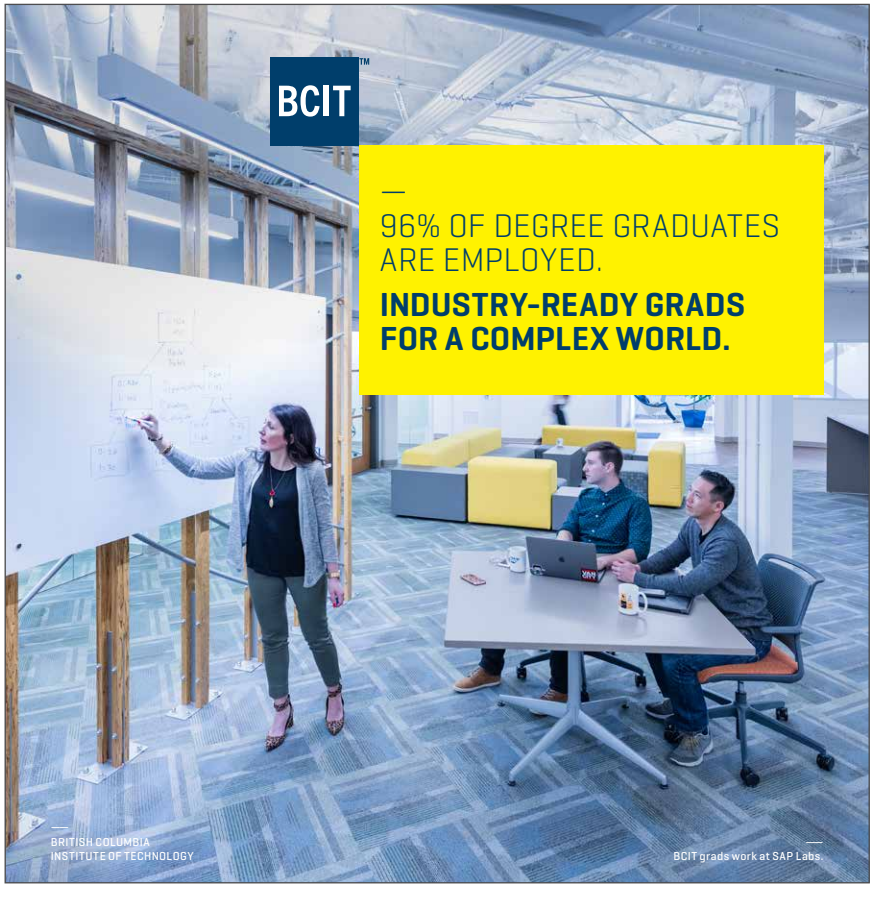
A key component of the new brand positioning was the launch of our manifesto, which articulates the spirit of BCIT. To read the BCIT manifesto, see page 25.

Education for a complex world

Since 1964, BCIT has trained generations of leaders who have created and improved our country's infrastructure, accelerated its economy, and grown its stature. In early 2017, BCIT unveiled a powerful new brand identity that delivers on our legacy of proven innovation and promises to inspire the next generation of graduates. Our distinctive brand positioning challenges the traditional Canadian post-secondary landscape and sets BCIT apart from its peers. "Education for a complex world" declares what we already know to be true—our graduates are equipped to anticipate and conquer the complex challenges of the day.

The phrase also forms the foundation for the BCIT creative platform. This hard-working narrative device frames BCIT stories within a flexible and striking graphic treatment. Its power becomes apparent when applied to singular programs or BCIT values: A business school for a complex world; Sustainability for a complex world.

This new brand was born out of a comprehensive consultation process that engaged thousands of stakeholders and is rooted in five years of institutional research. This work confidently affirms the BCIT commitment to give students the tools to thrive in a complex world.



Visit BCIT News to read more of our stories.

Meet the people determined to solve some of the world's great challenges. Learn how our community members accomplish feats that humble and inspire us. Visit **bcit.ca/news** to see how we're innovating education.

BCIT hosts global icons

Some of the great minds of our time have close connections to—and great things to say about—BCIT. Here are some of the people who have visited BCIT this year.

Julie Payette

In June 2016, Canadian astronaut Julie Payette received an Honorary Doctorate of Technology from BCIT. The accomplished engineer—and now Governor General of Canada—is recognized internationally as a leader in the world of science.

During her keynote address at convocation, Payette urged graduates to follow their passions: "Because you're sitting in front of me right now, that tells me that you were inspired somewhere, somehow. You did it. You set out a goal. You worked hard and you achieved it. You never know when that spark will be lit. But it's our duty to pick it up when we see it."

Payette participated in two space missions to the International Space Station aboard the shuttles Discovery (1999) and Endeavour (2009). She served as Chief Astronaut for the Canadian Space Agency from 2000 to 2007. In 2011, she became a Public Policy Scholar at the prestigious Woodrow Wilson International Center in Washington, DC. Most recently, Payette served as the Chief Operating Officer of the Montreal Science Centre.

Dominic Barton

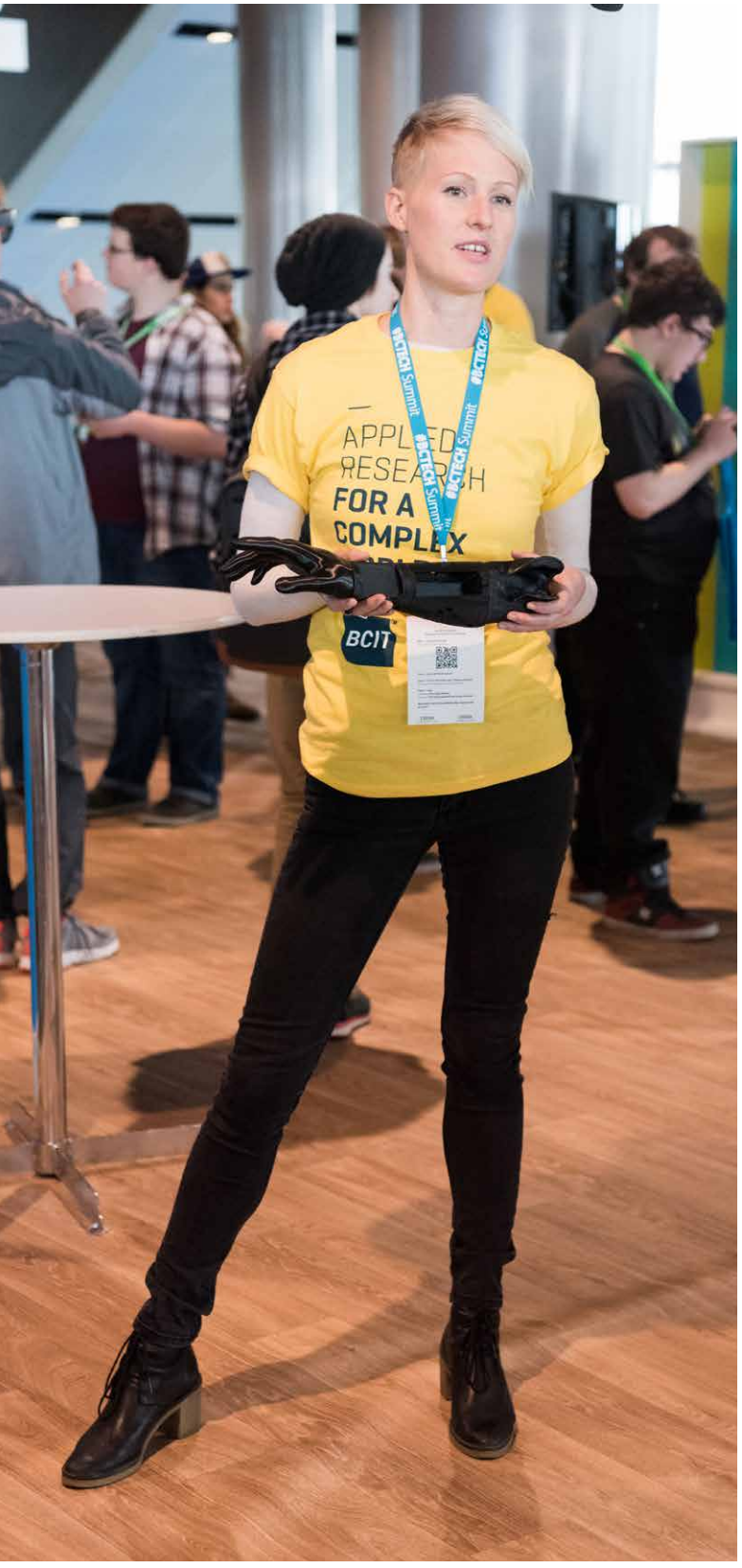
Dominic Barton graced our convocation stage in 2016 to receive an Honorary Doctorate of Technology. Barton is the Global Managing Director of McKinsey & Company, widely considered the most prestigious management consulting firm in the world.

In his keynote address, Barton encouraged graduates to step up into leadership roles. "You're leading in a time of incredible disruption. That's going to require leadership we've never seen before. You have a right, and obligation to lead. You're coming from a world-class institution... an institution that is taught by people who are also practitioners, people who understand and have experience in what's actually happening out there. ... You should be incredibly proud of [BCIT]. It is world class."

Bill McDermott

In April 2016, SAP CEO Bill McDermott spoke to a packed auditorium at our Burnaby Campus. He shared business insights and talked about his journey from humble beginnings to CEO of one of the largest software companies on earth. He also offered students advice for how to be entrepreneurial in a complex world: "You need to take on the world's biggest problems," he said, "because that's where there is the greatest opportunity."

As a leading global tech company with an office in Vancouver, SAP has a close relationship with BCIT. For example, the BCIT Centre of Excellence in Analytics (CEA) is a joint initiative between SAP, BCIT Business, and BCIT Computing. Its goal is to promote the field of analytics through education, applied research, industry projects, commercialization, and industry collaboration.



Industrial Design Research Associate, Lisa Boulton, shows off a 3D-printed prosthetic at the 2017 BC Tech Summit.

Research applied globally

A solar-powered electric vehicle charging station, 3D innovation in orthotics and prosthetics, simulation software that helps prevent leaky condos, and improved authentication of herbal health products: these are just some of the research initiatives that have earned Applied Research at BCIT international recognition.

Dr. Fitsum Tariku, the Canada Research Chair in Whole-Building Performance, developed techniques for retrofitting buildings to improve ventilation—addressing the notorious leaky condo crisis.

Dr. Paula Brown, another BCIT-based Canada Research Chair, works to standardize the testing of herbal medicines. She is known as a pioneer in the science of botanical quality, researching hoodia, aloe, turmeric, and cannabis.

Applied Research also does product development. For example, BCIT researcher Silvia Raschke explores applications in 3D printing. She recently helped Wiivv Wearables, a Vancouver company, create their BASE sandals. The revolutionary custom 3D sandals consist of unique foot orthotics constructed from pictures taken on your smartphone, then 3D printed and delivered to your door.

In October 2016, BCIT was acknowledged for the depth and breadth of our research. We took home the gold award for Applied Research at the World Federation of Colleges and Polytechnics Awards of Excellence—an award given to those who consistently address real-world problems through applied research, and advance applied learning and research on an international level.

Our sunny station

In September 2016, we celebrated the official launch of Energy OASIS—the newest member of the BCIT Smart Microgrid, and a blueprint for Canada's charging stations for electric vehicles. It's an intelligent energy management system that stores solar power to fuel electric vehicles. BCIT President Kathy Kinloch called it the envy of Canada in the field of sustainability.

Dr. Hassan Farhangi, who directs the Energy OASIS project, is especially proud of the talented BCIT researchers who worked together "to help BCIT create Canada's first campus-based Smart Microgrid, designed to facilitate innovation and world class applied research and education in Smart Grid technology: renewable energy integration, energy efficiency, conservation, and sustainability."

OASIS power is distributed to the vehicle charging stations and to buildings on the Burnaby Campus. Generating up to 200 MWh per year, the system produces enough electricity to power 40 households.

Halfway to zero

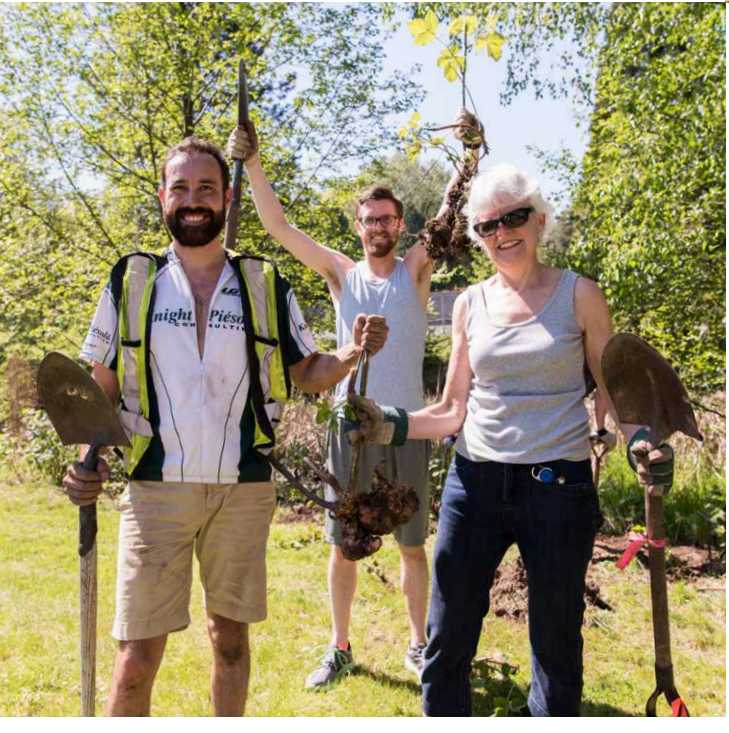
In an effort to combat climate change, the scientific community is calling for a 75%—a factor of four—reduction in energy and materials consumption. It's a lofty goal that BCIT is proving possible. Our Factor Four initiative works to achieve the target in six buildings on the north side of the Burnaby Campus, aiming to show we can reduce consumption without compromising our standards. This year, we reached an impressive milestone: a 50% reduction from 2009 levels. What's that worth? A lot. In addition to cutting our greenhouse gas emissions, the audacious project has also helped lower operating costs, beautified the north end of campus, and solidified our reputation as a living lab. Project leader Dr. Jennie Moore is confident we will pass the fourfold goal and reach net zero emissions by 2020.

BCIT grad and Mechanical Designer Emi Nakamura works beside the Biomass Firebox and Boiler on the Burnaby Campus. The wood waste-to-energy system will help Factor Four reach zero emissions.

Cherishing the cherry blossoms

Have you ever wondered where Vancouver's cherry blossom trees come from? Many of them originated as gifts from Japan decades ago. Some of the rarer species were facing extinction until a BCIT Biotechnology instructor stepped up to save them.

Keith Turner and his students took cuttings and then grew new trees in test tubes. The six-year effort culminated in a flash sale. Three hundred saplings were offered to the public at an outdoor sale in April 2016. They sold out in minutes.



BCIT employees remove invasive species from the banks of Guichon Creek as part of Earth Day celebrations.

A plum place to work

For seven consecutive years, BCIT has been named one of BC's Top Employers. The award goes to employers that lead their industries in creating exceptional work environments.

BCIT was chosen this year, in part, because of our support for continuous professional development and the flexibility BCIT offers its staff—adjustable work hours, telecommuting, and an earned days-off program. BCIT employees also enjoy a 35-hour work week. This year's commendation also mentioned BCIT's support for wellness and physical activity, which includes a newly renovated fitness facility, racquetball courts, and a climbing wall. The impressive pension plan was also highlighted.

CIT moves downtown and into new digs

Our Computer Information Technology (CIT) program is well-known in Vancouver's booming tech industry—and this year it got a bit closer to the action. The diploma program has moved from the Burnaby Campus to the heart of downtown Vancouver.

Walking into the newly launched Tech Hub at the BCIT Downtown Campus is a bit like walking into the offices of a high-tech Vancouver start-up—and that's exactly the point. In the near-future, the hub will serve as a "tech collider"—a space to integrate student learning with on-site industry projects, applied research, and entrepreneurship.

Great ideas STEM from great students

In January 2017, Civil Engineering students impressed at the STEM Spotlight Awards, which recognize creative thinkers and problem solvers. Three BCIT students were finalists, one of whom took the top prize and its $20,000.

Stephen Cohos won the grand prize for his entry into the sustainability category—a modular construction system—while Julie Cantes and Marco Guglielmotti shared the Bright Lights Future Leader Award. BCIT President Kathy Kinloch was on hand when the students received their awards.

"I couldn't be more proud of the innovative ideas put forward by our students," says Kinloch. "Their ability to develop solutions to the problems facing industry and our environment shows that they will graduate to affect positive change in the world."

Prevention better than a cure

Studying at BCIT can be an intense experience, and for students to be successful, they need to be engaged and healthy. That's why we launched Early Alert—a pilot program that helps staff quickly and appropriately respond to student concerns, to help ensure nobody falls through the cracks.

For example, if a student is often absent, has a marked change in mood, or simply asks for support, there is a clear way faculty can help. Instructors learn to identify concerns in four different areas: academic, behavioural, health and wellbeing, and safety. There is an online form to report the concern, which is then responded to by the appropriate support person.

The pilot project included six programs within the School of Computing and Academic Studies. Dean Steve Eccles says, "Its basic premise is that prevention is better than a cure. The sooner we can turn our students' initial shellshock into a sense of connectedness to their program and to each other, the better. If we can cut that down to days rather than weeks, Early Alert has moved the needle."

Early Alert rolls out Institute-wide throughout the 2017-2018 academic year.

From left – Frank Rizzardo, Suki Sekhon, Amy Fell, Kathy Kinloch, Diana Swain, the Honourable David Emerson, and Nadia Dobrianskaia.

A night of infinite possibilities

On an inspiring night in October 2016, we got together to celebrate our best. The Distinguished Awards dinner recognized past successes and looked to a future that promises both rapid change and real opportunity.

BCIT honoured six outstanding people who have embraced disruption and achieved greatness in their fields while contributing to their communities. Among them were CBC Senior Reporter—and BCIT alumna—Diana Swain and the Honourable David Emerson, each unveiled as a 2017 Honorary Doctorate of Technology recipient.

Two other alumni were called back to BCIT—BC powerhouses Suki Sekhon and Frank Rizzardo. The Faculty and Staff Distinguished Alumni Award went to a BCIT graduate who never left—staff member and BCIT change-maker Amy Fell. The Outstanding Student Leadership Award recipient was Nadia Dobrianskaia.

Embracing disruption

Disruptive technologies promise to transform our lives. BCIT looks forward to this exciting time in human history. Because of this, BCIT encouraged the Greater Vancouver Board of Trade to launch its Disruption Series. The first event explored how businesses can survive and even thrive. It was hosted by BCIT President Kathy Kinloch.

"People displaced by automation will find new, higher-skilled employment," she said in her opening address, "if we provide accessible and practical retraining that is aligned with current and emerging industry needs." Kinloch invited industry to help BCIT identify emerging fields in which advanced training is needed.

She was joined on the panel by alumna Nadia Dobrianskaia, and the President and CEO of BuildDirect, Jeff Booth. Their conversation was moderated by Sue Paish, the President and CEO of Lifelabs Medical Laboratory Services.

Kathy Kinloch, BCIT President, listens to fellow panelists Jeff Booth, President and CEO of BuildDirect, BCIT alumna Nadia Dobrianskaia, and moderator Sue Paish, the President and CEO of Lifelabs.

Who are we?

We are the focused. The driven.
Those who need to understand.

We are the ambitious. The entrepreneurial.
Those who never stop innovating.

We are the initiators. The uncompromising.
Those who know it can be done sustainably.

We are the relentless. The inspired.
Those who have conquered the complexity.

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3700 Willingdon Avenue
Burnaby, BC V5G 3H2
604.434.5734